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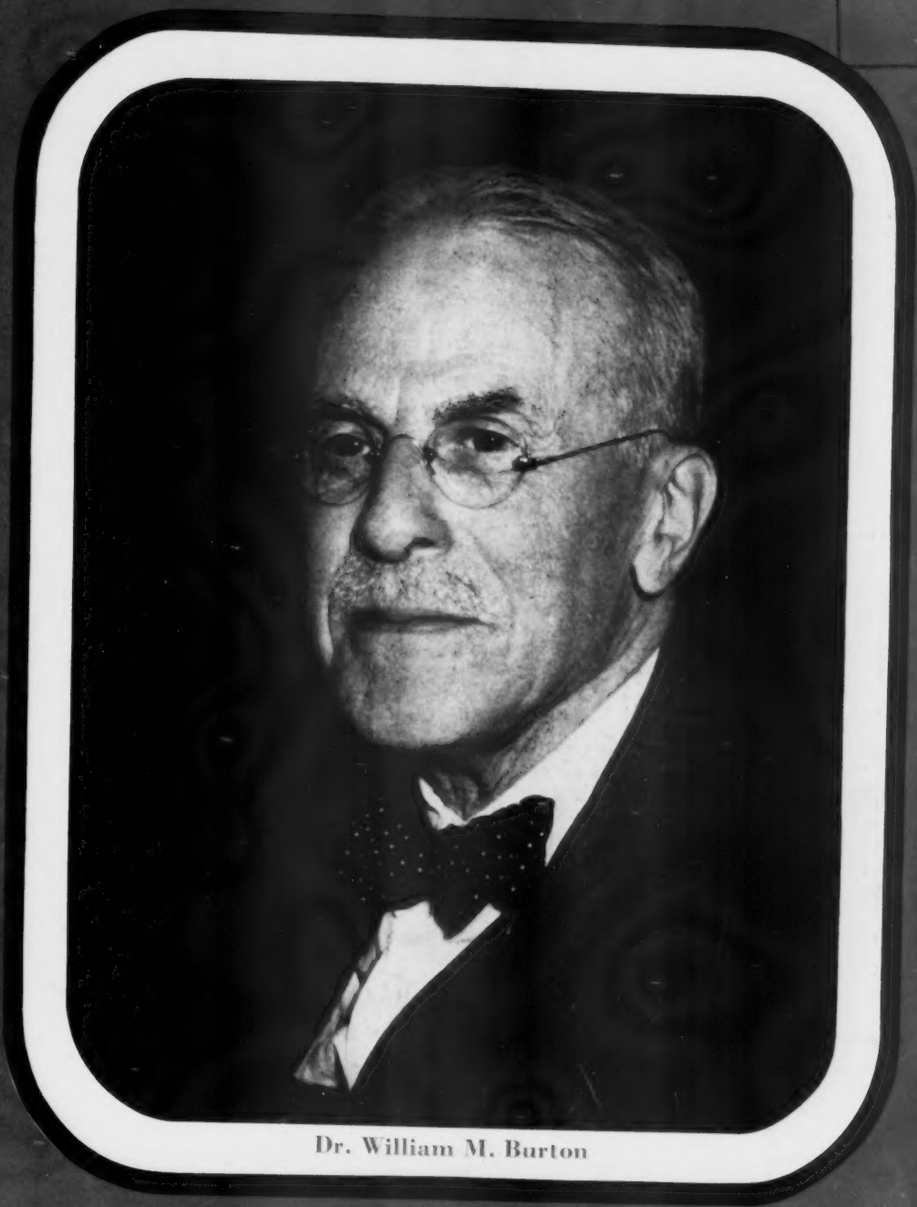
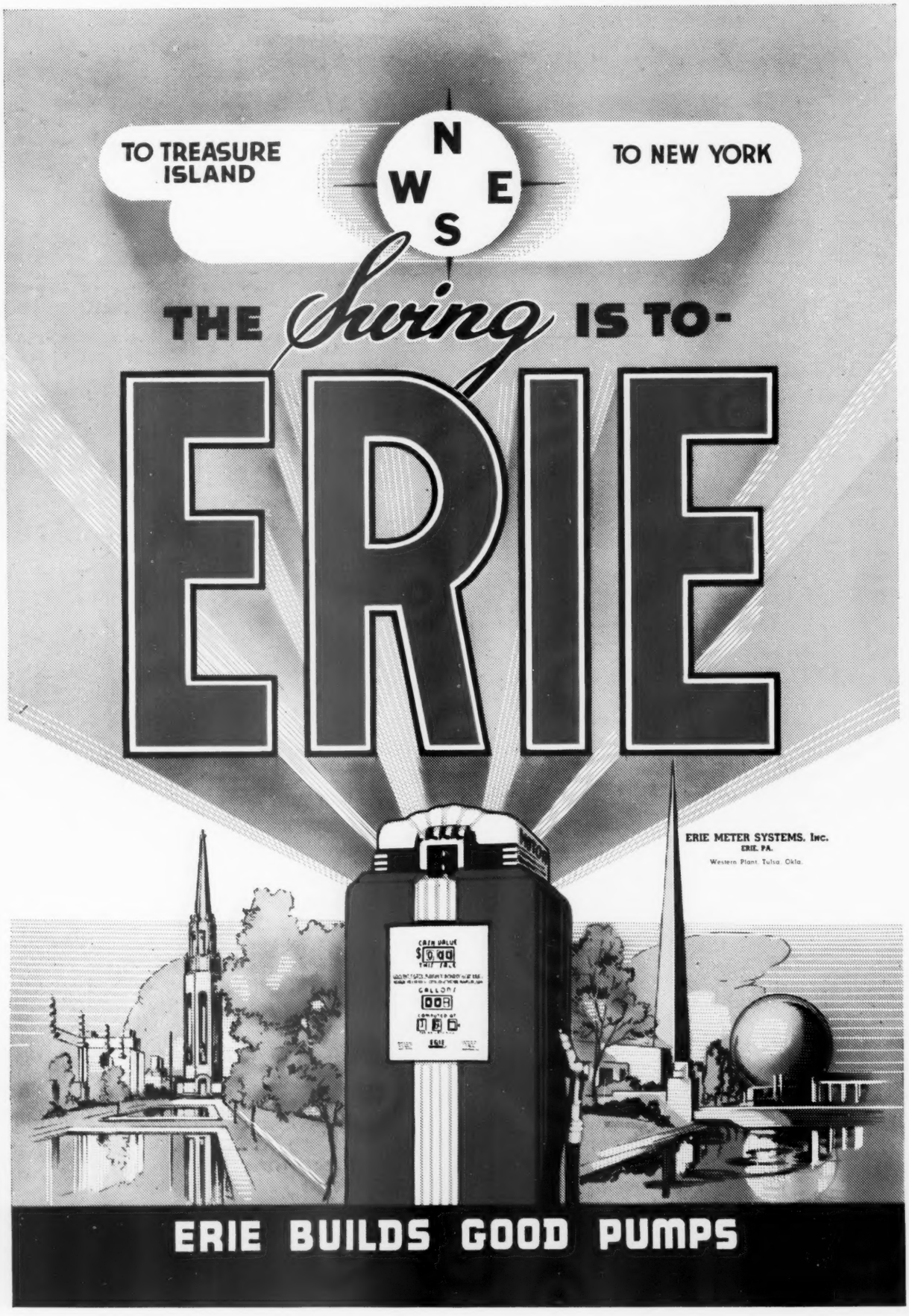


Dr. William M. Burton

Cracking Process Inventor Honored By Western Reserve University

ATIONAL PETROLEUM NEWS

JUNE 28, 1939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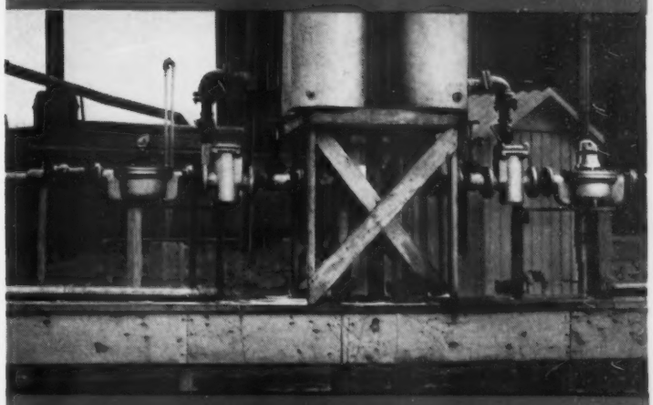

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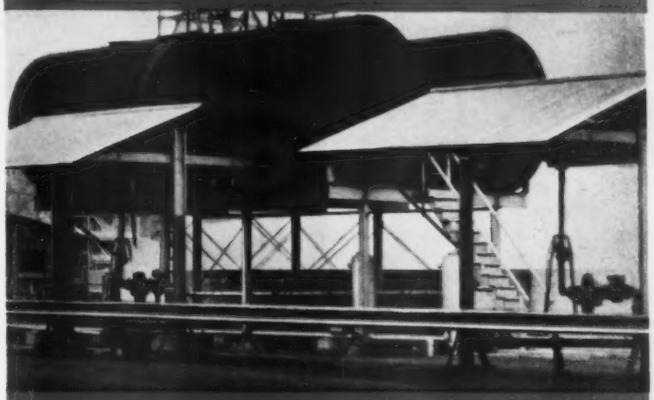

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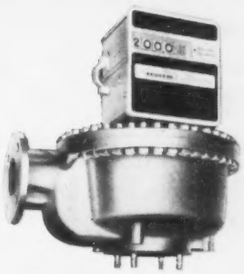

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METERING

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Gerhard Goplerud

The oil industry today needs a restoration of goodwill between supplying companies and jobbers generally, according to Gerhard Goplerud, Osage, Ia., of Goplerud Oil Co., new president of the Iowa Independent Oil Jobbers Ass'n.

"Unfriendly relations between groups, whether business or social, are not conducive to harmony or profit," Mr. Goplerud points out. He hopes that some satisfactory solution of the oil industry's internal relations is forthcoming.

Mr. Goplerud entered the oil business in 1925, building a service station at Osage. The following year he added a bulk plant and entered the jobbing business. He markets a major company's branded products.

Active in state jobber association affairs for years, Mr. Goplerud believes that the need for a strong, active association has been growing each year.

National Petroleum News

VOLUME 31 WEDNESDAY, JUNE 28, 1939 NUMBER 26

Refiners Meet With Railroads On Rate Plans

N. P. N. News Bureau

CHICAGO, June 27. — Representatives of thirty independent refiners and between 2000 and 3000 wholesale marketers, headed by M. H. Champion, Oklahoma City, of Anderson-Prichard Oil Corp., held a meeting here today with Western Trunk Line representatives for presentation of evidence preparatory to a joint hearing before the Southwestern Freight Bureau and the WTL at St. Louis July 10, on a general reduction of petroleum rates covering virtually the entire Middle West.

Representatives of Petroleum Rail Shippers Ass'n. contend that, while gasoline rates in the U. S. as a whole have been reduced 20 per cent in the past 10 years, gasoline rates from the Mid-Continent have been increased 10 per cent in the same period.

If Mid-Continent rail shippers are successful in getting general rate reductions on petroleum products from the southwest into the middle west, they will drop the action now pending before the Interstate Commerce Commission (docket 28-105) filed last fall by James F. Lawrence, Tulsa and Washington rate attorney, it was said.

Although the southwestern bureau, by reason of its numerous trunk lines into Mid-Continent territory, could force petroleum rail rates down, it was decided that a joint meeting before the southwestern bureau and Western Trunk Lines would be more satisfactory, and would eliminate the need of further action before the ICC.

Rail rate reductions from 8.5 to 11.5 a hundredweight between representative points are proposed in SWFB docket 17221. Similar reductions are proposed in WTL docket 37-366.

Representatives of Petroleum Rail Shippers Ass'n. present at the June 27 hearing in Chicago included also, R. E. Fisher, El Dorado Refining Co.; H. A. Watts, Derby Oil Co.; Douglas Sorme, Cosden Petroleum Corp.; P. G. Anderson, Lion Oil & Refining Co.; C. C. Correll, Rodessa Oil & Refining Co.; and H. R. Gillespie, Deep Rock Oil Corp.

A hearing scheduled for June 29 at Chicago before executive committee of the Central Freight Ass'n. proposes reductions in petroleum rates from southwestern territory into the central territory, similar to those in the SWFB and WTL dockets.

Motor Vehicles Average 8870 Miles Annually

N. P. N. News Bureau

WASHINGTON, June 26.—Motor vehicles traveled a total of 250,000,000,000 miles in 1936, and the average vehicle covered 8,870 miles, according to a Bureau of Public Roads Survey of road use.

The "average" vehicle traveled 5,000 miles on primary rural highways, 1,190 miles on secondary highways and rural roads, and 2,680 miles on city streets.

Majors' Heads Attack Divorcement Measure, Deny Marketing 'Loss'

N. P. N. News Bureau

WASHINGTON, June 26.—Four major oil company presidents appeared at congressional hearings last week on the Harrington marketing divorcement bill to deny that their companies were "squeezing" the independent marketer by using profits from other branches to subsidize "losses" in marketing.

Charges that major companies "lose" on their marketing operations but make it up in profits from production, refining and transportation, have been the principal argument used in behalf of the Harrington bill.

Three of the major company presidents said that their companies have made a profit in marketing operations. While the fourth company's own operations have been profitable, one of its marketing subsidiaries has been in the "red", it was testified.

Appearance of these major company presidents—J. A. Brown, of Socony-Vacuum Oil Co.; W. T. Holliday, Standard Oil Co. of Ohio; J. Howard Pew, of Sun Oil Co.; and W. T. Farish, of Standard Oil Co. of N. J. marked the first time since 1934 that such top-ranking officials had come before a congressional body to testify on their marketing policies. Last time was in hearings by the Cole Oil Committee in 1934. The divorcement hearings are being held before a subcommittee of the House Judiciary Committee, of which Rep. Healey, Mass., is chairman.

Nearly all opposition witnesses emphasized that the divorcement bill would "increase" prices to the consumer.

Hearings will be completed on Wednesday, June 28, when proponents of the divorcement bill will return to the stand to give rebuttal testimony.

Besides the major company officials appearing in opposition to the divorcement measure, there were representatives of independent jobbers, retailers, refiners and producers.

Paul Blazer, Ashland, Ky., president of Ashland Refining Co., told the committee that divorcement of transportation and marketing facilities from the independent refiner would destroy this branch of the oil industry.

The divorcement bill, according to Mr. Blazer's interpretation, would also prevent an oil jobber from hauling to his bulk plant in his own transport trucks or barges, except where the movement was direct from the refinery.

Mr. Blazer also elaborated on an argument, made by several

Tankwagon Price Advances Hold in Number of States

CLEVELAND, June 27.—Higher tankwagon gasoline prices, posted June 14 to June 20 by leading marketing companies throughout the south, southwest, Rocky Mountain states, New England, and at "subnormal" points in the ten midwestern states were reported firmly entrenched today.

In marketing territories of the Standard of Ohio, New Jersey and Louisiana, which take in the east coast, three southern states, Pennsylvania and Ohio, where Sinclair Refining Co. and other marketers had advanced prices in these areas dropped back to be competitive, they said.

However, the full half-cent increase, first put into effect by Sinclair on June 14, was holding throughout Kentucky, Georgia, Florida, Alabama, and Mississippi, where Standard of Kentucky is the "market leader." Kentucky Standard advanced prices 0.5 cent June 20.

Continental Oil Co., "market leader" in Rocky Mountain and southwestern states, advanced its prices 0.5-cent June 15, and other marketers in these states have since followed, according to reports. In Texas, Conoco, Sinclair and others, which had advanced 0.5-cent, recinded their advances June 21 and 22. Prices in Texas, however, had been advanced a full cent between the time Sinclair first announced the general 0.5-cent advance and the time when it became effective on June 14.

Throughout New England states, Socony-Vacuum, "market leader" had advanced its prices 0.1 to 0.5 cents just prior to the Sinclair advance of June 14. These new prices as posted by Socony were reported holding. Sinclair and other companies which had advanced an additional half cent on June 14 have dropped back to Socony's level.

In the Middle West, there have been two advances in "subnormal" gasoline prices by the Indiana Standard, the "market leader" in the past month. The Indiana company's second advance of 0.5-cent in "sub-normal" prices June 17 was reported holding. The majority of the companies which had advanced a flat 0.5-cent throughout the territory, at "normal" and "subnormal" points, including Sinclair, reported they have dropped to the levels established by the "market leader."

other opposition witnesses, that "plight" of the conventional jobber today was not due to alleged practices of the major oil companies but to developments in low-cost transportation of petroleum products—such as trucking direct to service stations and "by-passing" bulk plants.

"Most prosperous group of small business men in the country," was the way Mr. Blazer described independent oil jobbers.

Eric V. Weber, Cincinnati, of Eureka Oil Co., president of Ohio Petroleum Marketers Ass'n, and Hubert Fuller, Cleveland, general counsel of the Ohio jobbers' association, also appeared against the divorcement bill.

Divorcement of jobbers from retailing was proposed as an amendment to the Harrington Bill (HR 2318) by Wilmer R. Schuh, Milwaukee, president of National Ass'n of Petroleum Retailers, appearing in opposition to the divorcement measure.

Socony's President Defends Commercial Consumer Prices

Three of the four major company presidents appeared during the first day's (June 21) testimony by the opponents of marketing divorcement—J. A. Brown, Socony-Vacuum Oil Co.; W. T. Holliday, Standard Oil Co. of Ohio, and J. Howard Pew, Sun Oil Co.

All agreed the Harrington bill would unnaturally restrain competition, that it would create a privileged class of middle men, and would lead to monopolistic control of the industry in the hands of the marketers.

Mr. Brown pointed out that the proponents of this bill are motor fuel jobbers for the most part, but that there were many other petroleum products besides motor fuel, all of which must be marketed through some channels. If the refiner is cut off from marketing of these products, it will make the cost go up, as entirely new marketing organizations will have to be set up, he said.

In addition, Mr. Brown told the committee of the research constantly being carried on by the integrated companies, interested in developing the business as a whole. The jobbers, he said, would not be interested in this kind of research, and it would lag because the refiners would not be interested in the marketing end of the business.

He told how the integrated companies now work with specific customers to develop a particular lubricating oil, or other product, to fit special needs, and said this would be difficult, if not impossible, if a third party—a marketer—were interposed between the research of the refinery and the ultimate consumer.

Answering complaints on commercial consumer accounts, Mr. Brown said that in any business the large commercial consumer gets a wholesale price because of ease of delivery, assurance of a market, etc. He added that most of his company's accounts of this type called for prices above the jobber price, except national accounts.

On the subject of national accounts, he said he believed these purchasers would dislike very much to be forced to buy from different local marketers in each locality in which they purchased petroleum products.

Mr. Brown quoted statistics from the Petroleum Register as to the number of jobbers in the country (which the proponents of this bill contend is diminishing because of major oil company practices).

'More Jobbers Today Than Ever'

In 1918, Mr. Brown said, there were 1580 jobbers in the country; in 1923, 2229; in 1928, 4508; in 1933, 8233, and in 1938, 9926. He declared that in his opinion "business mortality in petroleum marketing is lower than in any other business in the United States," despite the fact that many who enter it are ill-fitted for the business, he said.

Describing the growth of the Socony-Vacuum company, Mr. Brown said it was once a marketing company which expanded into other branches of the industry, an expansion which would be impossible for the marketer of the future if the Harrington bill was passed, he pointed out.

"Integration," Mr. Brown said, "simply represents the aim of a company to make its competition more effective," to lower the price to the consumer, and thus increase its sales.

The real objective of the divorcement bill, according to the Socony executive, "seems to be to do away with efficient competition," who described some of the testimony of the proponents as "lacking a basis in fact."

On the subject of "exchanges" of gasoline, which was brought up by several witnesses for the bill at earlier hearings, Mr. Brown said it was a practice by which a marketer in an area where he had some distribution, but little storage capacity, might serve the public more cheaply than if he were forced to bring his supplies in from distant terminals. Gasoline which is exchanged, he said, must come up to specifications of the receiving company. The fact that it is sold under the brand of the receiving company instead of the supplying company is in compliance with the law, he added, and represents that the company which sells it to the motoring public is standing behind it as its own branded product.

Mr. Brown also declared that integration has supplied a greater stability of employment for workers. He pointed to the steadily decreasing gasoline prices over a period of years as a result of integration, competition and efficiency.

At the close of his prepared statement, Mr. Brown was asked by Rep. Hancock, N. Y., if he had covered the point brought out by the marketers, namely, that marketing losses had been subsidized by profits from other branches. Mr. Brown replied that the setting up of departmental profit and loss statements was a difficult matter, because of the various prices that could be charged among the departments for various products.

Over a period of 10 years, Mr. Brown said, there have been some years in which his company made money in marketing, and some in which it lost money. Like the other major company witnesses, he said his company's aim was to make money in all branches, and to operate the business as an efficient and profitable whole.

Responding to a question by Rep. Springer, Ill., Mr. Brown said that passage of the bill could have no other effect on the consumer than to cause him to pay more.

Rep. Healey pointed out to the witness that he had referred to the bill in his testimony as though it aimed at complete disintegration of all four branches of the industry, whereas, Mr. Healey said, it aimed only at separation of marketing from the other branches.

The witness said he understood this, but that he believed the aim of the proponents was complete disintegration, and that was why he had treated the measure as he had.

Mr. Healey also asked the witness if the "major companies actually fix the price" of petroleum products to the consumer, and Mr. Brown said he believed not, that it was competition that fixed the price. Mr. Healey wanted to know if there was any arrangement between the major companies to fix prices, and Mr. Brown said he knew of none.

Ohio Standard Makes Profit In Marketing, Says Holliday

Mr. Holliday's (Ohio Standard) statement covered many of the same points as that of the first witness. In addition, he said that the bill would destroy the non-integrated, or so-called independent refineries, because it would prohibit them from doing anything but selling their products at the refinery gate to those who would come to get them. "This," he declared, "would take from the non-integrated refinery the only opportunity it has to survive."

"The company which I represent," Mr. Holliday said, "is a refining and marketing company. Up to a couple of years ago it had no crude oil production whatever and now has a negligible amount of production . . . . It is in no sense what is called an integrated company. Fundamentally, it has survived through the years as an unintegrated refiner and marketer . . .

"It is a notorious fact that the refining branch of the petroleum industry during most of the last 10 years has not made a profit, but that, on the other hand, for the last 10 years as a whole has operated at a loss. . .

"The statement has been reiterated by proponents of this bill that refinery marketers cannot operate their marketing department at a profit. I challenge that statement. Our company has always made a profit on its marketing operations, and it has only been the profits from its marketing operations which have enabled it to survive during the last 10 years."

The same argument applies to completely integrated companies, Mr. Holliday said, because the fact that a refiner has crude oil production or pipelines is immaterial. "The bill seeks to strike down the whole refining branch of the industry simply in order to punish refiners that happen to be engaged in production or crude oil pipeline operations," he said, adding, "this would be a gross miscarriage of justice because, as I have pointed out before, the proponents of this bill cannot possibly show that the marketing branch of the industry is being subsidized by the refining branch."

Like other witnesses, Mr. Hol-

liday pointed out that this bill would prohibit the jobber from transporting the products himself, "except by truck." If he wanted the products transported by pipeline, tanker or barge, he would have to employ someone else to do the hauling, the witness said, and told how development of distribution systems had aided in cutting the cost of products to consumers.

He told how the Ohio Standard had cut the cost of delivering gasoline from refineries to bulk stations from 1.5 cents a gallon to 0.25 cents a gallon in 11 years, through "strategic location of refineries and the developing of transportation by large transport trucks and by barging, and finally, in the last year or two, by the building of gasoline pipelines." But if the Harrington bill had been in force during this time, he said, nothing could have been done toward achievement of this reduction in cost — which was passed on to the consumer, he said.

Mr. Holliday also pointed out how this bill would force the "middle men" into distribution of all the other products of petroleum—heavy fuel oil, industrial lubricants, road oils, asphalt, wax, coke, and other specialty products, now purchased largely direct from the manufacturer.

"The average jobber has had practically no experience with these heavy and highly specialized industrial petroleum products, and yet this bill would enforce a chaos resulting from the compulsory creation of a new activity for middle men," he said.

Characterizing as "inconceivable" the proposed prohibition of manufacturers from distributing their products, Mr. Holliday told the committee that, in order to maintain his daily operations, a manufacturer "must be able to budget his future sales."

In the case of the Ohio Standard company, however, he said, this bill would present the picture of a marketing company trying to decide what to do with its refining operations, rather than a refiner trying to decide what to do with its marketing set up.

Chairman Healey asked Mr. Holliday what percentage of the marketing in Ohio his company does, and was told "on gasoline, about 25 or 26 per cent." In response to further questioning by Mr. Healey, Mr. Holliday said there were about 20,000 independent operators (including dealers) in Ohio and that the number had increased greatly in recent years.

'Rank Industrial Piracy' Says Pew on Divorce Bill

Mr. Pew, Sun Oil Co. president, labeled the Harrington proposal as "as rank a proposal of industrial piracy as has ever been attempted," and declared that it would inevitably result in higher prices to the consumer. He read a lengthy statement into the record and supplemented it by extemporaneous testimony.

Describing Sun as "one of the smaller integrated companies," Pew likened its distribution system, and the distribution system of the entire integrated industry, to an automobile assembly line, and just as essential to the efficient functioning of the entire industry as the assembly line to the automobile industry.

Mr. Pew, too, described the process of integration, pointing out that in the oil industry's beginnings there was the producer group, the wagoneers, who took crude oil in casks to the refinery, where another group refined it, and then sold it to the marketers, who distributed it. The first step in integration, he said, was the crude oil pipeline, carrying crude direct from producer to refiner—and the first advocates of disintegration were the wagon haulers thus eliminated.

After all, Mr. Pew said, the consumer is the "boss," for it is he who makes or breaks the industry, and it is for the consumer, or rather to sell him oil products at the lowest possible price, that all steps toward greater efficiency are taken.

"It was not the wagon hauler, anxious to protect his job, who invented the pipeline," Mr. Pew said, "It was a refiner, anxious to get his products to the public just a little bit cheaper."

Answering the "subsidization of marketing" argument of proponents, the Sun president said "there is no way to know just where the profit comes from," under various methods of accounting. All branches are indirectly profitable to the business as a whole, he said, citing the case of a department store restaurant, admittedly run at a loss in order to attract customers to the store's other goods. The store as a whole shows a profit, even though the restaurant is operated at a loss, he pointed out.

Each of the divisions of Sun, however, has shown a profit for the past five years, however, Mr. Pew said, adding that he didn't

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think this a particular "example of morality," however. If somebody else could do the marketing job more profitably, he said, "we'd probably hire him to do it."

Mr. Pew said the proponents of the Harrington divorcement bill are "a few thousand jobbers of motor fuels, a small fraction of whom now aspire to handle the major part of this business. But, like the witnesses who had gone before, the Sunoco president said these motor fuel jobbers can't handle all the other petroleum products.

Even now, he said, jobbers are getting themselves integrated through taking over other branches, particularly transportation.

In response to committee questions, Mr. Pew declared the bill would create "one of the worst and most vicious monopolies I can conceive of," because the marketers would dominate the entire industry, and dictate to the rest of the industry what to make, and to the public what it could buy, he said.

Asked by Mr. Healey if the price of gasoline were not "pretty much standardized," Mr. Pew retorted that this was "the best evidence of competition you could have—if they all sold at different prices an investigation would be in order."

Again in response to chairman Healey's question as to subsidizing marketing losses, Mr. Pew said he didn't think "the stockholders would put up with it very long" if there were consistent losses in marketing, and added "we've made more in marketing than in any other branch."

In closing, Mr. Pew branded the arguments advanced in behalf of the Harrington bill as "contradictory, illogical and inconsistent," and said: "I do not recall an instance in which so much legislative dynamite, industrial disaster, and economic perversity have been packed into so few words of a legislative proposal. Nor do I recall a case in which the proponents of a measure have so sedulously sought to conceal its real meaning and purpose."

Independent Jobber of Ohio Oppose Marketing Divorce

Besides the major presidents, two representatives of the Ohio Petroleum Marketers' Assn. appeared in opposition to the measure at the first day's hearings—Eric V. Weber, president, and Hubert Fuller, general counsel. Mr. Weber is a jobber in Cincinnati, operating Eureka Oil Co. and selling under his own brand.

Both Ohioans attacked the measure as one which would "draw a legislative ring around the jobber" and tell him he could not expand his activities into other fields outside of marketing, even if he should find that operations would be more efficient and profitable if he could do so.

Mr. Weber reiterated the argument that the proposed divorcement would necessitate the creation of hundreds of new marketing and transportation agencies, since refiners would have to sell f.o.b. refinery, and this could only add to the distribution costs, and the ultimate cost to the consumer. At the same time, it would divorce marketers now engaged in barging and similar operations from these, he said, thus depriving them of "this honest and legitimate return upon their investments."

"We submit that we believe that all branches of an industry should, and are entitled to, earn a profit, and 'stand on their own feet,' so to speak. However, it is our judgment that Congress should not experiment with 'umbrella' types of legislation which obviously will destroy economic soundness at the expense of the consumer."

Mr. Weber was the first of several witnesses to assert that "a code of fair practices would go a long way toward the solution of many of the industry's marketing problems."

The Ohio jobbers' president said he foresaw in the bill "an incentive to divorce eventually the jobbers from marketing through their own outlets by reason of being in the wholesale end of the business. If this should happen a dire calamity will prevail."

"This same situation will prevail among the many refiner-marketers who have sizeable investments in service stations," Mr. Weber continued. "We submit that, if the true intent of this bill as it exists in the minds of the proponents were submitted to the consuming public, this room would not hold the thousands of protests which would follow."

In closing, Mr. Weber suggested that the committee might also look into the constitutionality of the proposal.

Questioned by Rep. Springer, Ill., Mr. Weber repeated that the bill would have a demoralizing effect on the entire industry, and that it would increase the price to the ultimate consumer.

Rep. Healey asked Mr. Weber, as he did other witnesses, who dominated the price in his area, and Mr. Weber said he believed it was the cut-price operator, whose prices all marketers must meet, or nearly so.

Mr. Weber mentioned "market leader" and "official price" in an area during his discussions of price, under questioning by the committee, and Chairman Healey and others seized upon these phrases for explanation. Mr. Weber said the market leader was the marketer who sold most of the gasoline in a given area, and said that by "official price" (under which he had said before that the price-cutters cut) was the generally recognized price posted by the major companies.

The jobber president said he didn't know whether the major companies were marketing at a loss or not.

Wide Margins Invite Price Cutting—Weber

Rep. Walter, Pa. (not a member of the subcommittee but a member of the full Judiciary Committee, who sat in on part of the hearings) asked Mr. Weber if it were not true that when the majors set a high service station price it was an invitation to independent dealers to cut prices. Mr. Weber said "yes," adding that the wider the spread between tank car price and service station prices, the more price cutting may be expected.

Chairman Healey asked Mr. Weber if he were a member of the American Petroleum Institute (which had been described by the proponents of the bill at earlier hearings as the "propaganda agent" of the major interests). Mr. Weber said he was not only a member but was proud to be the vice-president in charge of marketing.

Mr. Fuller's (OPMA general counsel) testimony took somewhat the same angle as Mr. Weber's, but went a step further to say that "we do not criticize the approval given this legislation by its various proponents, but we do criticize their appearance here as representatives of the 'true' jobbers."

He declared that the proponents do not correctly appraise the results of the proposal, such as drawing the "legislative circle" mentioned by the OPMA

Text of Oil Marketing Divorce Bill Introduced by Rep. Harrington, Iowa

WASHINGTON—Following is text of the Harrington Bill (HR 2318) to divorce marketing operations from other branches of the oil industry, on which hearings are being held before a subcommittee of the House Judiciary Committee:

H. R. 2318

To divorce the businesses of production, refining, and transporting of petroleum products from that of marketing petroleum products.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is hereby declared to be the policy of Congress to protect commerce among the several States in petroleum and its products from the burdens and harmful effects and monopolies which result from the operations of persons in the marketing of petroleum products combined with operations in production, refining, and transportation of petroleum and petroleum products and to encourage and maintain conservation of the deposits of crude oil situated within the United States.

Sec. 2. As used in this Act—

(a) The term "person" includes one or more individuals, partnerships, associations, corporations, legal representatives, joint-stock companies, trustees and receivers in bankruptcy and reorganization, common-law trusts, or any organized group, whether or not incorporated.

(b) The term "commerce" means trade, traffic, or transportation among the several States or within the District of Columbia, or between any point in a State and any point outside thereof, or between points within the same State but through any place outside thereof.

(c) The term "production" means the development of oil lands within the United States and the production of crude petroleum and natural gas thereon, the storage of crude petroleum and natural gas thereon.

(d) The term "transportation" means the transportation of petroleum products by means of pipe lines, railroads, or tankers.

(e) The term "refining" means the refining, processing, or converting of crude petroleum, fuel oil, or natural gas into finished or semi-finished products. It shall include the initial sale with transfer of ownership of refined petroleum products to customers at the refinery.

(f) The term "marketing" means the sale and distribution of refined petroleum products, other than the initial sale with transfer of ownership to customers at the refinery.

(g) A person shall be deemed to be an affiliate of another if such person controls or is controlled by or is under common control with such other person.

(h) The term "control" means actual or legal power or influence over another person, whether direct or indirect, arising through direct or indirect ownership of capital stock, interlocking directorates or officers, contractual relations, agency agreements, or leasing arrangements where the result is used to affect or influence persons engaged in the marketing of petroleum products.

Sec. 3. It shall be unlawful for any person directly or indirectly to be engaged in commerce in the marketing of refined petroleum products while such person or affiliate of such person is also engaged in one or more of the other three branches of the petroleum industry, namely, production, refining, and transportation.

Sec. 4. Any person knowingly violating the provisions of this Act on or after January 1, 1940, shall upon conviction be punished by a fine of not to exceed $10,000 for each such offense committed.

Sec. 5. It shall be the duty of the Attorney General immediately to examine the relationships of persons now engaged in one or more branches of the petroleum industry and to institute suits in equity in the United States district courts for the issuance of mandatory injunctions commanding any person to comply with the provisions of this Act.

president around their operations.

As proof of the statement that the bill would raise the price to consumers, and therefore decrease their enjoyment of gasoline and other products, Mr. Fuller pointed out how increased gasoline taxes in various states had cut down on automobile use, because of the increased cost, and said the increase bound to come from the divorcement bill as this would even further cut down this enjoyment.

In an effort to paint for the committee a picture of the "average motorist," the man who buys the oil industry's chief product, Mr. Fuller pointed out that 60 per cent of all automobile owners have never owned a new car; that 25 per cent of them get less than $20 per week in salary; that 51 per cent of them get under $30 per week, and that 70 per cent get less than $40 per week.

"So," he reasoned, "raising the price would be detrimental not only to the jobbers for whom we speak, but for 30,000,000 motorists, also."

Final witness at the first day's hearings was Wilmer R. Schuh, president of the National Ass'n. of Petroleum Retailers, who told the committee that he had been operating a service station in Milwaukee since 1931, and that he represented 62,000 strictly retail dealers throughout the country.

Divorcement of Jobber From Retailing, Urged

Mr. Schuh said his people would be in favor of the bill if it went further and divorced the jobbers from retailing, and if the retailers "could still retain our present benefits"—source of supply of consistent quality, a well-rounded advertising program by major suppliers, a well-planned and effective merchandising program, a degree of stability, and protection to handlers of branded products.

In addition to these helps to the dealers, Mr Schuh said, "the consumer derives a great deal of benefit in the form of lower prices under the present system of distribution." The witness said he did not want to represent to the committee that the marketing branch is without troubles, which he listed as:

Giving and loaning of equipment, extravagant building of service stations, unfair systems of commercial discounts, marginal protection contracts, backdoor sales, and others.

Some of these practices are indulged in by jobbers, who are proposing the Harrington divorcement bill, he said, adding:

"Some of them have cited the meat packers case as an example, and if you are going to enact House Bill 2318, then on behalf of our membership I petition you to amend this act and divorce wholesaling from retailing."

The NAPR president presented a proposed amendment to the committee which would carry this into effect, but said that legislation was not what was needed to straighten out the industry's ills, but "some sympathetic assistance from federal and state governments." He also attacked the "flood of grand jury investigations and persecutions with which it is being harassed," and said "the enactment of the Harrington bill would be just another step in what appears to be a vicious plan to completely demoralize this industry."

Referring to the Madison trials, which, he said, had been "held up to you as an example of just prosecution," Mr. Schuh said "I suggest that before you draw any conclusions you get both sides of the story. Strange as it may seem, the small retailer and the legitimate jobber are the ones who have suffered most because of what happened at Madison."

"No one can come before this committee," Mr. Schuh declared, "and honestly state that a monopoly exists in the marketing branch. The small refiners and unbranded marketers are consistently gaining volume. A record of almost any trading area will divulge many marketers, both wholesalers and retailers, who have entered the business within the last six or eight years, and a checkup on their income would show that they are doing exceedingly well; in fact, too well to suit many of the branded dealers."

If, as is charged, certain refiners and integrated companies are making excess profits by reason of controlling transportation facilities, Mr. Schuh said, the remedy is in a proceeding before the Interstate Commerce Commission. This bill might cure some of the evils, he said, but it would put the entire industry in a straitjacket, in much the same way that a straitjacket might be placed on a child who chews his nails, instead of merely taping the nails.

Mr. Schuh was another witness who said he believed there should be a code of fair competition in the industry "which would prevent most of the abuses which are causing complaints."

Farish Denies Majors Lose Money To 'Squeeze' Independent Marketer

W. S. Farish, president of Standard Oil Co. (New Jersey) was the first witness to appear at the second day's (June 23) divorcement bill hearings, reading into the record the longest statement of the proceeding so far, and also introducing several other memoranda as to price structure, etc.

Mr. Farish opened his statement by asking a number of categorical questions as to what he could and could not do if the Harrington bill became law: "Could I sell men to industrial plants to help in the solution of some difficult lubrication problem? Could I sell 'Flit' to grocery and drug stores?"

Obviously, he said, the answer is "No" to all the questions, and the major oil companies would thus be barred from doing what the farmer does when he takes his products to market, except that the farmer does not have to go to market every day to keep the stream flowing.

"I'm not here to tell you the oil industry is perfect," Mr. Farish told the committee. "We're glad to get criticism, and don't even object to being investigated." But, he said, this bill would cause a drastic dislocation of all business.

Mr. Farish joined preceding witnesses in denying the "one underlying assumption of proponents of this bill" that major oil companies are deliberately losing money in marketing so that they can "squeeze" out the independent, and then "when they have eliminated this competition, they'll make up for their losses by a hike in prices."

"If I'm that stupid," the witness said, "my stockholders should have fired me long ago."

Even if the majors should feel they had enough business to raise the prices exorbitantly, and did so, it would be like "raising an umbrella" under which independent competition would flourish even more than at present, he said.

As for the argument that there is no competition between major oil companies, Mr. Farish met that by naming over a dozen or more companies that have either started from scratch or grown from obscurity to major proportions since the Standard Oil dissolution suit. They did that because there was free competition, he said.

If there is any doubt about active competition among the majors for retail outlets, he said, "during the first four months of 1939 we either lost to or took from other marketing companies in our territory 738 dealers."

"Competition in this business also takes several other forms," he continued, "notably the struggle to improve existing products, to develop new products better adapted to particular uses, and to enhance the quality of the service and convenience afforded to consumers . . . . . these improvements have been made the basis for keen competition for the favor of the public."

Answering criticisms of advertising expenditures of major companies, Mr. Farish pointed out that if all oil company advertising were charged to gasoline alone (and it should be charged to all products), the aggregate would amount to less than one-quarter of a cent per gallon.

Then he pointed out that there were more differences in various advertised brands of gasoline than "is commonly supposed," and told of results of a test conducted in South Carolina in the winter of 1937, where a comparatively wide range of volatility and other characteristics were found.

At this point he was asked about "exchanges" by committee members, who had exhibited interest during testimony of the bill's proponents on this point.

Mr. Farish told the committee that the practice of "trading" of gasoline grew out of the importance of transportation charges. Few companies are fortunate enough, he said, to have refineries or storage available at low-freight rate points in all their marketing territory, so they began by purchasing the gasoline of a company more strategically located. Then this company from whom the gasoline was bought in the first instance might buy some gasoline from the original purchasing company in another area—and there would be the trade.

However, he said, all these companies either have the gasoline purchased from other companies made to specification, or they blend it in their own plants to make it come up to the specifications of their own brand. The New Jersey Standard blends most of the gasoline which it gets from other companies, he said, to make it "Esso" and "Essolene."

Mr. Farish pointed out that

(*Continued on page 16*)

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Present Gasoline Price Advances Show that the Industry's Statistical "Tea Leaves" Can be Easily Misread

By WARREN C. PLATT, Editor

The "Sinclair gasoline price advance" seems to have done three things—

1—Further emphasized to all the need and the justification for getting more subnormal prices up to normal;

2—That there were sound reasons for raising normal prices over considerable territory;

3—That it is entirely feasible for a company other than a "market leader" to point these things out by acting Independently and on its own ideas of when better prices can be had and are justified.

It would seem a fair conclusion, therefore, that the "Sinclair advance" has been of real value to the industry, to the stockholders and, by putting the oil industry on a bit stronger financial footing, of real value to the country and of great assistance in the country's battle toward business recovery.

Much of the oil industry's thinking about price has been faulty, if, in fact, many oil men could be said to do any real thinking about price. This lack of thinking probably is due to the exceedingly profitable thinking about price on the part of the late Mr. Rockefeller, Senior, who held the profit umbrella high enough for every one. Also the industry's lack of intelligent price thinking is undoubtedly due to the tremendous and steady increase in the demand for gasoline, so that any one and every one just could not help make money, at producing, refining and selling during the years of the automobile's greatest growth. Those were profit-proof days, the 1920's.

The industry's thinking about price was stimulated by the arrival of the economists and statisticians who finally helped to drive home the idea that there is a law of supply and demand and that, when there is too much gasoline, there is quite likely to be a low price no matter what one tries to do. For the last dozen years or so the industry has been trying to adjust its operations to make supply balance with demand and with considerable success.

But many in the industry are still miles away from the fact that price is a personal proposition, that it is something each man decides for himself and gets for himself; that a good, able, courageous salesman, can get a better price than a poor and cowardly salesman and by salesman we mean the man out calling on consumers and the man in the executive chairs of jobber and major company; that a price is obtained only by venturing and fighting for it, seldom by sitting back and waiting for someone to hand it to you.

For years now, the industry as a whole has seemingly been doing little itself about getting profitable prices, but has been waiting for the law of supply and demand to get such prices. Our friends the economists have contributed much to this inaction because some of them, at least, seem to believe that nothing can happen except what is caused automatically by the law of supply and demand. For some years now we have heard much about reducing gasoline and crude oil stocks and how excessive stocks are depressing prices and all the rest of the scholastic harangue on economy. The position of the economists seems to be that better prices are impossible of attainment until stocks are still further reduced and then they seem to believe, prices would automatically move upward.

Most people are prone to deal too easily in generalities, and generalities—perhaps much like this one—may not always be true reflections of facts.

We have made some effort at times to dig down under the generality that "there is too much gasoline" or too much something else and to try and find out just who has too much of it and just who thinks there is too much—other than the economists—and what they base that thinking on.

We have not had much luck.

This last spring there were solemn pronouncements to the industry and the public about "overproduction" of gasoline. We tried to discover the "overproducers" but failed. The economists said there was "too much" for "the markets" and we tried to figure out just what markets they meant? No luck.

We inquired of various major companies if they had "too much" gasoline and were informed that they were quite happy with their stocks, though some, it was true, had more than the year before but they wanted the additional amount for various reasons that seemed satisfactory to them.

We inquired of the smaller refining companies and found that they had not accumulated any "surplus" stocks. There might be days, it was true, when they were more anxious to sell some gasoline from their current production than on other days but they had no "excess" stocks because they seldom have any more than working stocks. And anyway these small refiners sell only a few stray cars a month on the famous "tank car market" and 85 per cent of the time they don't sell any at all on that market.

So we wondered what all the shooting was about and have not found out yet.

True, the industry's stocks of crude and gasoline are not just what various people say they should be; but these people, with all due respect, are bystanders and do not own the stocks. While the owners said they were happy about their own supply in their own tanks, it was true, the owners said, that the "other fellow" had "too much." They did not know who the "other fellow" was and how he knew that he had "too much."

While the gathering and analyzing of petroleum production and storage figures is highly desirable and has been of great value to the industry and the industry should not be without them, still one may wonder if the time has not come for the industry to accept the figures for what they are and no more, and then let "the situation" be analyzed by others than those who lecture solely about the perils of the law of supply and demand?

These doctors of economics are all right

but now that they have helped the industry to get its bowels fairly well regulated isn't it time to make a closer scrutiny of some other parts of the patient?

Might not new experts be called in, or perhaps just a little common sense be used?

While the medical "docs" of the world put much emphasis on cathartics, they also recognize that cathartics won't cure quite everything. So isn't it time for the oil industry to turn its attention to other parts of its economic carcass.

A real acute shortage of supply will, of course, force up price. This is what happened in the spring of 1935 under the auspices and direction of Petroleum Administrator Ickes, his "dear friend" ex-Attorney General Cummings to the contrary notwithstanding.

That famed advance in the price of gasoline which saved the industry from bankruptcy also was greatly aided by a general belief on the part of all, including government officials, that a price advance was justified. That belief was what caused jobbers and brokers to BID higher prices and refiners and brokers to ASK higher prices.

But an industry does not have to wait for a federal oil administrator to tell it when prices should go up. Nor does an individual company have to so wait. Nor does an industry nor a company have to wait to raise their prices for a figure expert to ring an economic starting bell.

There are times when the situation is such with an individual company, or with several companies, in a given territory, sometimes large and sometimes small, when prices could be raised if someone not only thought so but actually did raise his prices and then fought for that raise. Such raising takes sound judgement; it takes a stout heart; it requires a persuasive manner and a convincing sales story; it needs good men for the successful telling of that story. But given these business virtues, prices can be raised.

We offer in evidence this Sinclair advance. We offer in evidence the returns to normal prices by other companies. All of this has happened while the doctors of economics have been shedding tears over the prophetic tea leaves in the patient's cups.

Oil companies, other than the "market leaders," have tried general advances a few times in the past. It was unfortunate then that the industry's thinking about price had not progressed far enough for the rest of the industry to go along with them.

There are plenty of strong courageous men in the oil industry who can fight for better prices today if they just get to thinking so. But they must study price as such and what affects it other than just the law of supply and demand.

There are some big executives in this oil industry today who probably do not realize that they do not make the prices at which they sell the major part of their gallonage. They do not even go through the motions.

There are some major oil executives today who probably do not realize that they do not do a single, solitary thing in the conduct of their business that can even remotely affect their prices UPWARD?

And practically every oil executive—major, jobber and retail dealer—very evidently does not fully appreciate that *his* price policy seems to be to sell at or below the "other fellow's" price and never to try and raise HIS OWN price over the other fellows.

This oil industry should understand that there is far more to getting a profitable price than just the operation of the law of supply and demand. You have to figure what your profitable price should be. Then you must put brains and hard work and selling guts behind the ideas. If one works hard enough maybe one will get there, in his particular business in his own special bailiwick, even though gasoline stocks are not dropping down to somebody's idea of what he thinks they should be under his own conception of a "balanced operation" under the law of supply and demand.

We might keep in mind that the present advances to "normal" and above "normal" were despite the fact that the economic doctors said that the "tea leaves" said "It can't be done."

Around THE MID-CONTINENT

. . . By ALLEN S. JAMES

Vice President Hugh Stalcup of the Skelly Oil Co. and President W. J. Gourley of the American Manufacturing Co., Fort Worth, Tex., made plans one day last week over the luncheon table to go bear hunting.

They are going to Alaska and hunt Kodiak bear. All of the plans virtually were completed at the luncheon table conference—except the time of the proposed hunt.

They have not decided whether to go a year from this coming fall, or to wait and go two years from that time.

Mr. Stalcup went big game hunting last fall and some of his trophies are beginning to arrive from the taxidermist. Just recently the Skelly building manager, assisted by a goodly portion of the Skelly office personnel, hung an Elk head in Mr. Stalcup's office. The head, say the experts, is a beautiful head as Elk heads go.

There already is a black bear skin rug on the floor of Mr. Stalcup's office, and within a short time he is scheduled to receive from the head stuffer one Noose head and one Bighorn sheep head.

Fellow members of the committee on supply and demand of the Independent Petroleum Assn. of America are looking forward eagerly to the arrival of that Noose head so it can be placed officially on display.

Only then, some of them have hinted, will it be possible to settle the recurrent controversy that has ranged for months between Mr. Stalcup and the association's President Charles Roeser over who killed the larger Noose!

* * *

• 'Free Homes' Flynn Dies

Dennis Thomas Flynn—the lovable Irishman Oklahoma pioneer called "Free Homes" Flynn—passed away in Oklahoma City last week. He was 78 years of age.

The present generation of Oklahomans did not know much about Dennis Flynn, but the old settlers, the pioneers who "made the run" and who opened the Indian territory to white settlement, knew him and loved him.

It was Dennis Flyn, who as territorial representative, fought for eight years to get the free homes for the early settlers. His dream of free homes was the result of the suffering and hardships of the severe drouth of 1890, soon after "the run." Settlers were required to pay $1.50 an acre for their lands. The first half fell due in two years and the second half at the end of a five-year period.

That winter of 1890 the government spent $50,000 for food for the settlers. They barely survived the winter. They had no way of paying that first installment.

Mr. Flynn ran for congress, on the platform of free homes. He lost, but he tried again and was elected in 1892. His bills repeatedly were tossed out, until 1900 when he finally achieved his goal and President McKinley signed the measure which wiped the debts off the government's books. Mr. Flynn retired from political life two years later.

He truly was an Oklahoma pioneer. He rode the first train into the then capital—Guthrie—and was that town's postmaster for a time.

* * *

• Tulsa is Host to 'Jay Cee'

There are two sights the delegates to the national convention of the Junior Chamber of Commerce witnessed last week in Oklahoma that they probably will not forget for some time.

One was the Woolaroc ranch of Oil Man Frank Phillips near Bartlesville, Okla., and the other was the annual Ceremonial Osage war dances at Pawhuska, Okla.

More than 1100 delegates, stuffed into 200 automobiles, were driven from Tulsa to the Woolaroc ranch and museum, then to the Indian village near Pawhuska where the Osage Indians have been holding their "house of warriors" ceremonies the past week.

* * *

• East Texas Echoes

Echoes of the hey-day of "hot" oil running in the East Texas field when there were refineries and "reclaiming plants" scattered all over the place, were heard in federal court at Dallas last week.

The echoes came during the trial of N. S. Locke on charges he had failed to pay the government $284,968.33 due as income tax.

The government has charged that very little "legal" oil was used in operating the Locke refinery in the East Texas field. Testimony presented during the week was to the effect that Locke had begun to liquidate his property when the government got behind him, and already had taken $100,000 to Canada where it is now in a safety deposit box. Locke told the court the money was taken there for investment and that he would bring it back to pay any fine or debt against him.

Another bit of interesting testimony was the fact that operators apparently had an arrangement with one or more of the banks in the East Texas field to honor checks made out to "cash" without an endorsement so that there was no trace of the payee.

Presidents of Majors Hit Bill to Divorce Marketing

(*Continued from page* 13)

hundreds of jobbers, "the very people who advocate this bill" sell gasoline under their own brands, but they do not manufacture the gasoline. The brand name identifies the seller, not the manufacturer. He pointed out several other commodities on which the seller places a brand name not that of the manufacturer, and pointed in particular to the mail order houses, which "stand behind" their own brands, although they do not manufacture the articles so branded.

Turning to charges of "unfair competition" again, Mr. Farish pointed out that "We're not trying to squeeze out the wholesalers (by which term he had designated the jobbers who sell under their own brand). We are glad to sell to them, and sell about 10 per cent of our East Coast distribution through them."

He said that charges of jobbers in the Southeastern part of the country that they had difficulty in finding a supplier were untrue, and said "I have just jotted down here a list of 16 suppliers from whom they can buy."

The narrowing margin which both branded and unbranded jobbers have complained of in recent years, he said, is not unfair competition, but is chargeable to the fact that vast improvements have been made in methods of marketing and transportation by the industry, and these savings have been passed along to the consumer in most cases. Development of truck and barge transportation, large storage at filling stations, etc., were listed as some of these cost-reducing factors.

The "margin" in the oil business, he said, has grown up as a "cents per gallon" proposition, unlike the "percentage" margin common to many other industries. Accordingly, price changes affect this "cents per gallon" margin far more readily than they would affect a percentage margin.

Mr. Farish said that, while the Standard of New Jersey was operating at a profit in its own marketing operations, some of its subsidiaries, like Colonial-Beacon Oil Co. (marketing in New York and New England) were not. "We are making every effort to get this company into the black," he added, saying that Colonial-Beacon's lack of profits was due to low fuel oil prices in its territory. He denied emphatically that these losses in marketing were for the purpose of "squeezing" marketer's margins lower.

Turning to integration, and why it is the natural development for an oil company to seek to integrate — a refiner starts marketing operations to be assured of a market; a marketer needs a source of supply; a producer seeks an outlet for his crude, and later, for his refined products. Integration is the answer to all of these needs.

"We (Standard) can run most effectively looking five years ahead. First we look at the sales organization, and its possibilities over a five-year period, then we go back to the refinery, which will fulfill the demand created by the marketing set-up, then back to the transportation system which will bring the crude oil to the refinery, and finally, to the production which will supply the raw material."

If any one of these elements were removed, the company would be at an utter loss to make its future plans, he said.

Summarizing, Mr. Farish told the committee that he wished to leave with it as his major point the fact that the steady improvement in the efficiency of the industry has been brought about by the major integrated company, which has made all the steps toward reducing costs of production, refining and marketing, brought the cost of gasoline to the consumer down, and at the same time has constantly increased wages of its employes. As an example of the latter, he said truck drivers now were getting $195 a month, compared with $125 a few years ago.

The jobbers, on the other hand, "are doing nothing to reduce costs; they are just standing in the middle of the stream and yelling for help."

However, he added, he does not think all jobbers favor this bill, only a "relatively small number."

'Price Leadership' Explained

After his statement on the bill proper, Mr. Farish said he would like to clear up for the committee some points as to price leadership, price uniformity and how the retail price is arrived at, which points committee members had dwelt on in questioning most of the witnesses at the hearing.

As to price leadership within a territory, he said "everyone" marketing in the territory watches the statistical position of the industry, observes the actions of his competitors, and otherwise keeps close watch of the situation.

Then, suppose a fairly large marketer in a local territory openly cuts the price a fraction of a cent. Local managers of all the other companies must make a decision as to whether they shall meet the price, if they do, that area becomes a "subnormal" area. If the leading marketer (who sells the bulk of the products) in the area makes the cut, all others feel they must because experience has taught them that the leading marketer will get more of their business away from them unless they do.

If the cut price area keeps spreading, and the local managers in a number of small areas make the cuts, then the manager for the territory, seeing business slipping away from his leading company by these cuts, decides to cut prices all over the territory, and a general cut is ordered to meet the "spotty" areas, and the entire territory becomes a "subnormal" territory, he explained.

After a time, if distribution and other costs are whittled to meet the "subnormal" price, it becomes the "normal" price for the area.

Price advances come in much the same manner, when retailers have "spent themselves" in their efforts to take the business away from their competitors and are willing to see the price go back up, he said.

It is up to the sales manager of the leading company to gauge this "decrease in the ambitions" of his competitors, compare the statistical position of the industry, and again make a decision, this time to raise the price.

If he is wrong, as some of them often are, Mr. Farish said, he must either sit by and watch his gallonage (and his market leadership) going to competitors, or else drop back down to "subnormal." All the time he must be keeping his eye on the markets, on general business conditions, on his competitors (through his salesmen and other contacts) and a dozen other factors.

"Some company in every territory at one time or another has to bear the onus of acting on changing conditions. Price leadership does not mean that any one company can set whatever prices it wants to get the maximum profit; it means that that company is the one whose officials have decided that conditions call for a change. If it 'guesses' wrong too many times either on increases or decreases, it won't be the leader long, and the man who makes the bad guesses won't be its salesmanager long, either," Farish summarized.

This same cycle, he said, explains the "uniformity of prices," which committee members have remarked on, although Mr. Farish pointed out to Chairman Healey that there were two "subnormal areas" within a few miles of his (Healey's) home town of Somerville, Mass. Mr. Healey had remarked that the prices up there were always uniform.

So, Farish continued, it is plain that "retail prices are the responsibility of the retailers," who do the cutting or other price juggling in their stations which bring on the general movements up or down.

Mr. Healey asked the witness if the New Jersey Standard had leased out its retail outlets, and was told that all but six stations are out under lease, and that Standard had begun leasing before the "Iowa Plan" was talked of. Further questions brought out that all of the New Jersey's Standard leases are for one year, non-cancellable.

Mr. Healey wanted to know what Mr. Farish would do if one of his retail outlets were selling at a higher price than neighboring competitors, and losing gallonage. The Standard president replied that there was nothing he could do, except try and "persuade him to quit" selling at those prices.

'Would Bill Take Away Jobber's Own Trucks?'

Paul G. Blazer, president of Ashland (Ky.) Oil and Refining Co., blamed changing conditions for the plight which has led some oil jobbers to seek relief in the divorcement bill.

"The maximum use of low cost transportation facilities, the consolidation of jobber and dealer operations into a single operation, the hauling of gasoline direct from terminals to service stations and the application of the principle of small profit-large volume merchandising to gasoline selling," Mr. Blazer said, "all tend to reduce

the present excessive cost of marketing petroleum products. The jobbers who expect to make a profit will have to adjust their operations to those changing conditions. Aside from all other considerations, it would appear to be contrary to public policy to enact legislation aimed to protect high cost, obsolete marketing practices which the public cannot be expected to continue to support."

Blazer "broke down" the bill in its component parts for the committee, and said that by far the most disastrous result of its passage would be the creation of a "no man's land" in the transportation of refined products, because, he said, the bill prohibits either refiner or marketer from performing this function.

Mr. Blazer said that, as near as he could determine from definitions in the bill and from previous testimony of Paul E. Hadlick, secretary of the National Oil Marketers Ass'n., principal supporter of the divorcement measure, said the bill would make it unlawful for a jobber to transport his products in a truck to his bulk plant, except trucking directly from the refinery where he had purchased the products.

'Divorcement Would Destroy Many Independent Refiners'

In this connection Mr. Blazer said "It might be that our friends the railroads had a hand in this bill," since "common carriers" would have to carry all refined products from the refinery to the marketers.

Mr. Blazer said this would cause more harm to the jobbers than to any other class in the industry, and said that 80 per cent of Ashland's distribution is through jobbers, and "it is to our advantage for them to prosper and expand."

Transportation costs are the most important factor in the price of gasoline, he told the committee, and told how his company was able to survive—through cheap barge transportation.

"We have cheap transportation of refined products in our barges to our large terminals in the consuming centers, from which our independent jobbers draw their supplies, but this bill would take those facilities away from us and would make our refinery investment valueless . . . . Besides, you would be helping the big oil companies, and you would be taking a good source of supply away from the 79 independent jobbers and distributors who are now buying from us. I believe each of those results is directly contrary to the expressed purpose of this bill."

Even though rail rates applicable to shipments from Ashland to points in its distributing area have been cut in half in recent years to meet water competition, Mr. Blazer said, the rail rates are still seven times as high as Ashland's present costs, and "the difference between their rates and our cost amounts to more than our profits . . . . I would rather be head of the company that takes over those (transportation) facilities than to remain president of this company."

"Since we have never subsidized our marketing operations by diverting earnings from other departments of the company, we see no reason why we should be forced to sell to some one else—probably at a sacrifice—profitable properties in which we have invested almost a million dollars. There must be hundreds of other small and medium-sized companies which would suffer under this law the same as we would."

Mr. Blazer characterized independent oil jobbers as the "most prosperous group of small business men in the country," and said that, contrary to testimony of proponents, the jobber was not passing out of the picture, but was increasing in numbers.

The witness recalled that Mr. Hadlick, appearing before the committee earlier in favor of the bill, had quoted the so-called "Blazer committee report" (report of the study of small companies in the oil industry under the NRA oil code) as to abuses in the industry, such as subsidizing marketing losses, and other practices complained of by jobbers. But, said Mr. Blazer, the report did not recommend divorcement of marketing. It did suggest, however, he said, that establishment of separate corporations for each branch of operations, each having to pay its own taxes and otherwise stand on its own feet, might be a solution, or that requirement of separate profit and loss statements by some governmental agency, such as Securities & Exchange Commission, might help.

"I don't know that I'm for that today," Blazer said, "but it's worthy of consideration, anyway."

Describing the Harrington bill as one which would promote inefficiency, R. L. Minkler, assistant to the president of the General Petroleum Corp. of California, representing the California Oil and Gas Assn., described the potential effect of the bill in the five Pacific Coast states.

The type of jobber for whom the bill is written, Mr. Minkler said, "is practically non-existent on the Pacific Coast, and has never accounted for more than a minute fraction of the total business."

There are independent wholesalers, some operating their own plants and some operating plants of their suppliers, he said, but there is no refinery tank car market "of the Oklahoma type" on the West Coast.

"We do, to varying degrees," Mr. Minkler said, "control or influence the marketing operations of these wholesalers . . . the reason (being) that in the Los Angeles Basin, an area of limited extent, are concentrated half of California's crude oil production, three-quarters of our refining and half our consumers' market. Geography has made it easy for a producer, or a refiner, or a marketer, to get into other branches of the business right at home and to eliminate all unnecessary middlemen from the movement of oil from the well to the consumer.

"Because of the almost complete absence of jobbing operations on the Pacific Coast, this legislation will change our present methods of operation almost 100 per cent by forcing middlemen into a picture where they have never been."

In many of the operations on the Pacific Coast, he pointed out, a single plant serves two or more of the branches of the industry. He described examples of this, and listed a dozen or more other problems which he said the law would create, such as those of selling for export, delivering to foreign ships in Pacific harbors, storing of products during low consumption seasons ("no separate marketing company or middleman is going to purchase oil from us for storage"), necessity for scouring the world for a market for surplus products, elimination of long-term planning, cancellation of leases now running for long terms, disintegration of central office functions, studying needs for new and better products ("There will be no more oil company technicians riding railroad engines, studying efficient fuel use . . . "), and taking care of employes deserving of and expecting a pension.

Mr. Minckler told the committee that, in view of the fact that a grand jury is now investigating practices of the oil industry in California, it would be ill-advised to discuss the charges made by W. J. Kemnitzer, author of "Rebirth of Monopoly" and well-known petroleum economist. However, he said, he would categorically deny the charges, and added that "Mr. Kemnitzer has advanced some very original arithmetic and some serious distortions of historical facts . . . "

'Jobber Is Not on Way Out,' Producer Tells Committee

Russell B. Brown, general counsel of the Independent Petroleum Assn. of America, took the stand to tell the committee how the proposal had been voted down by his association's members June 6, and curtailed his statement, at the request of the committee, so that there would be no repetition. Brown said:

"The petroleum industry has played a two-fold part in developing a business which ranks close to the top in the industrial life of the Nation. It discovered petroleum and then discovered uses for it. It has developed and continuously improved the products of petroleum and thus has given the world new sources of light, heat and power. It has created the needs it now supplies."

"I cannot subscribe," Brown told the committee, "to the view of some that the jobber is on the way out. Rather, I believe that the jobber is very essential and that he will continue to serve a useful function and prosper, provided he knows how to conduct his business operations along scientific and efficient lines."

Judge J. C. Hunter, Abilene, Tex., president of the general Mid-continent Oil & Gas Assn., also appeared in opposition to the bill.

Truckers Oppose Bill

John V. Lawrence, representing the American Trucking Associations, Inc., protested against enactment of the bill on the grounds that it would increase operating costs of truckers, by raising the price of gasoline.

(For earlier stories, including testimony by proponents, see NPN, May 17, p. 13; May 31, p. 17; June 7, p. 11; and June 14, p. 13.)

OIL TRANSPORTATION NEWS

Latest developments in freight rates, legislation, taxes, regulations, and new construction affecting the transporting of petroleum products by truck, barge, tanker, pipeline, and railroad.

Last-Ditch Fight is Waged Against Rail Bill in House

N. P. N. News Bureau

WASHINGTON, June 26. — Declaring that a lobby of "railroad executives who have camped here from the time this Congress opened" is doing its best to force through the provisions of the Wheeler-Lea transportation bill, even though it is "inimical to agriculture, to labor, to shippers, to consumers, and to the American people as a whole," Rep. Lindsay Warren, N. C., last week led a bloc of House members in asking that any proposals to reorganize the nation's transportation system be given careful study before enactment.

Accordingly, Rep. Bland, Va., a member of the self-appointed steering committee, made up largely of water-carrier sympathizers, introduced a resolution calling for creation of a special 9-member committee to make a deliberate study and report to Congress March 1, 1940. Transportation legislation would be postponed pending the inquiry.

Meanwhile, the House Interstate Commerce Committee is attempting to polish up its version of the Wheeler-Truman bill (Senate 2009), already passed by the Senate. It probably will not be reported until early in July.

Among the chief objectors to the transportation bill are the water carriers, whom the measure seeks to subject to regulation similar to railroad regulation. Other competing forms of transportation object on the ground that the proposal would give the rails the "right of way" over trucks, buses and all other forms.

In his statement to the House as to the opposition bloc, Rep. Warren said the bill "will affect every section of the country, and it will immediately mean higher freight rates in every section, when all of our efforts should be made to reduce them.

Rep. Warren said he had "never seen nor heard of a water-carrier lobby," but said the railroads had a "super-lobby" for this measure. He was borne out by Rep. Rankin, Miss., who said:

"If any of you members do not know that there is a railroad lobby here trying to put over this legislation to strangle and destroy water transportation in this country, and to paralyze motor transportation, it is time you wake up and find out what is going on around the Capitol."

Mr. Rankin added to his remarks a statement in opposition to S. 2009 recently made by Fred Brenckman, Farmers National Grange representative, which attacked the claim that the bill was designed to "protect the public against monopolistic rates and practices."

"So far from breaking up any monopoly among water carriers, which in reality does not exist, the bill takes a long step toward creating monopoly," Brenckman said.

The steering committee's letter to all members of the House in opposition to the bill read a letter from War Secretary Harry H. Woodring in which he pointed out to Congress the fact, well known to shippers and rate observers, that the rails charge high rates on traffic not open to water competition in order to maintain low rail rates on competitive traffic."

The letter also quoted the Maritime Commission, Interstate Commerce Commission Chairman Joseph B. Eastman, agriculture and maritime labor leaders, and declared that a "large portion of railroad labor," was against the bill, as well as "industry, which must bear the burden and pay the freight."

"In face of such fears, anxiety, and warnings, does not sound public policy demand that action on this proposed legislation be delayed until the Congress and the country can find out what the Wheeler-Lea bills really mean, and what their effect would be on agriculture, commerce and industry, as well as their effect upon the general welfare of the nation as a whole?," the statement concluded.

Besides Warren and Bland, other representatives who make up the bloc include Culkin, N. Y.; Mansfield, Tex.; Disney, Okla.; Kleberg, Tex.; Harrington, Ia.; Oliver, Maine; Pittenger, Minn., and Whittington, Miss.

Oil Trucking in May Climbs 25% Above 1938

N. P. N. News Bureau

WASHINGTON, June 26. —Eleven per cent of total tonnage of petroleum products moving in May were shipped by truck, a gain of 6.2 per cent over the April figure and 25.3 per cent over May a year ago, according to American Trucking Association's figures.

The ATA also reported that the heaviest truck movement of revenue freight generally since association began compiling statistics was registered in May. Tonnage in May was 10.7 per cent over April and 32.7 per cent above May, 1938.

Northwest Truckers Get Aid from Union In Rail-Truck 'War'

N. P. N. News Bureau

WASHINGTON, June 26. — The oil trucking industry in the Pacific northwest has received unexpected support from union labor in its fight to cut rates from Pacific Coast terminals and those along the Columbia River to inland points, according to information reaching here. An Interstate Commerce Commissioner is holding hearings on the subject at Portland, Ore.

Labor spokesmen, according to the American Trucking Ass'n., "declared emphatically that they were . . . interested only in continuation of (truck) rates that would prevent a throwback into lower scales of pay for workers."

One of the motor carriers involved, Asbury Transportation Co., appeared at the hearing to defend its recent publication of a 17-cent rate from Columbia River Barge Line docks to Spokane, in an effort to produce a new barge-truck rate inland to compete with the proposed 25-cent rail rate from seaports.

Proposed 25-cent rail rate was characterized as a "fighting rate" by representatives of Arrow Transportation Co., which suggested that a rate of about 32 cents would be more competitive.

Controversy over freight rates into the Pacific Northwest, or "Inland Empire" has been developing for a long time. As long as rails were allowed to operate steamboats, they had no worry about competition. But when Congress put an end to such operation, they began to fight by cutting rail rates. Then trucks came through with their cuts.

Rails May Revive Plans For Kansas-Nebraska Rate Cut

TULSA, June 26.—Shelved for some time by Western Trunk Line Committee, rails' proposal for an approximate 35 per cent reduction in petroleum rail rates from Kansas to Nebraska may be revived and considered at the July hearing of the Executive Committee of the W.T.L.C., reports here indicate.

Sponsor of Land-Grant Rate Repeal Urges Rails to Return Land Grants

N. P. N. News Bureau

WASHINGTON, June 26.—possibility of enactment of a law to repeal land-grant rates now enjoyed by the federal government, has been lessened by publication of a letter from Sen. Reed, Kans., author of one of the bills to repeal rates, to J. B. Hill, president of Louisville & Nashville Railroad Company.

Reed told Hill that he would withdraw his bill unless the railroads agreed to return to the United States government 13,000,000 or 14,000,000 acres of land they still possess of the vast acreages granted to them in the last half of last century by the government to subsidize railroad construction .(N.P.N. June 7, p. 17).

Reed said, "It is a pity that those of us who are trying to assist the railroads in a legislative way, should be hampered in our efforts by a failure on the part of the leading railway executives to appreciate the practical situation and to recognize that he who seeks for equity should grant equity."

Reed characterized the railroad's contention that they should retain the land still held under land grants, as "astonishing."

Under land grant rates the federal government is allowed to ship products at considerably reduced charges because of having granted lands to railroads to encourage construction from 1865 onward.

Tennessee Price-Posting Law Is 'Toothless,' Oil Men Hear

By Telegraph

NASHVILLE, Tenn., June 26.—Tennessee's brand-new price posting law is unenforceable, Dudley Porter of the state attorney general's office, today told oil men gathered here from all over the state to attend the Tennessee Oil Men's Ass'n.'s summer meeting.

Because of wording of the law, prohibiting sales below posted prices, Mr. Porter said, it can only be enforced by a competitor bringing action. The attorney general's office cannot bring suits on its own initiative, cases must be worked up by competitors of the offending station, he added.

The one-day meeting was in the nature of a "get-acquainted" affair at which the incoming state administration met oil men of the state—independent marketers as well as representatives of major companies. Some seventy oil men attended.

Bain Stewart, state personnel director, speaking for Governor Cooper who was in New York attending a conference of state governors, greeted oil men and praised the industry for its contributions to welfare of the community.

Walter Trebing, head of the state inspection department, drew some comment from oil men when he said that his force consisted of 15 inspectors. It was pointed out that the state gasoline inspection fee of fourtenths of a cent per barrel brings in $1,500,000 a year. Mr. Trebing replied that he was spending all that the state budget permitted for inspection.

Commissioner George B. McCandless and practically his entire staff from the finance and taxation department was on hand to greet the oil men.

The oil industry's contribution to Tennessee taxes was discussed by Stratton Foster, director of the state accounting division.

During the afternoon, a closed meeting of Tennessee independent jobbers was held at which, it is understood, most of the discussion was devoted to reports that one major company in the state had hiked the octane ratings of its gasolines to 72 for third grade, 76 for regular, and 82 for premium.

Oklahoma's New Gasoline Inspectors Will Actually Inspect under New Law

OKLAHOMA CITY, June 24.—Oklahoma at last is going to have an efficient and very thorough oil inspection system after the new inspection law becomes effective July 1, the Oklahoma Corporation Commission indicated very definitely at a hearing here June 23.

The hearing was called to obtain testimony to guide the commission in the writing of its rules and regulations. Representatives of all types of distributors and manufacturers were present and the various proposals as to rules and the suggested specifications were discussed at considerable length. The rules and regulations probably will be issued late next week.

Those attending the hearing, however, obtained the very definite impression the commission is not going to let this oil inspection business degenerate into another political plum.

Under the new law there will be 28 deputy oil inspectors, and the commission is going to require those inspectors to work eight hours a day, and they are going to gather samples of all grades of gasoline, kerosine, naphtha and burning oil and send them to centrally located laboratories for immediate testing. They also will be on the job continually checking up on bulk plants, service stations, refineries, tank wagons and transport trucks.

Deputy inspectors under the new law will not collect the inspection fee. That will be done by the state tax commission.

Under the old law there were approximately 140 deputy gasoline inspectors in the state and one of their duties was to collect the inspection fee in their territories, it was pointed out. That is about all those inspectors did. It is doubtful if half a dozen of them could have run a simple distillation test on gasoline; they would not have known how to inspect a station, bulk plant or tank wagon. Theirs' was purely a political job, some of the inspectors were women.

With such a set-up it can be seen that there was little actual inspection work done. What few samples were collected were sent to "Ed" Graham, chief chemist, at Oklahoma City, who was forced to run his tests at a makeshift laboratory in one corner of the state capitol basement.

Under the new order of things, however, W. J. Armstrong, chief conservation officer in the proration department is to be chief oil inspector, with "Ed" Graham as chief chemist. This is about the same setup as formerly except that Mr. Graham is going to have some help on testing.

Mr. Armstrong made it plain at the hearing that inspectors are not going to "crack down" or get "hard boiled" right at the start. "For about a month," he said, "the deputies will conduct an educational campaign to acquaint the dealers with the law and the rules. We also will give the dealers a chance to set up books and records, which are required by the law."

If the system works as outlined at the hearing, it will mean that Oklahoma motorists for the first time probably can be reasonably certain that it can buy gasoline at any station in the state without fear of getting inferior products or "bootleg" gasoline.

'Marginal Wells' Defined

LANSING, Mich., June 26.—Michigan Conservation Commission has approved a marginal well provision which fixes 20 barrels per day as the minimum allowable regardless of acreage unit on wells drilled prior to the oil conservation act.

The marginal ruling, recommended by the Michigan Oil Advisory Board, which is headed by J. P. Hoffmaster, was set up to prevent possible premature abandonment of some wells on less than 10-acre tracts and will chiefly affect wells in the Bloomingdale area, it was said.

A minimum allowable of 100 barrels per week for 1000 foot wells and 10 barrels additional per week for each 100 feet of greater depth is set by the oil conservation act. Average well depth of producing wells in the Bloomingdale area is 1,200 feet.

Illinois House Passes Below-Cost Selling Bill

SPRINGFIELD, Ill., June 21.—Illinois House of Representatives today passed HB 880 and 881 which prohibit retail sales of motor fuel or lubricants below cost.

Rep. John C. Friedland, sponsor of the bill, vigorously denied that it was a price fixing measure as contended by two or three other representatives.

Gulf Coast Refiners Organize New Group

HOUSTON, Tex., June 26.—The Gulf Coast Refiners Ass'n. was organized here recently at a meeting of 10 representatives of as many refineries operating on the Gulf Coast. A majority of the refiners are independents.

D. W. Hovey, Republic Oil Refining Co.'s general manager at Houston, was elected president of the new organization. Cornelius Kroll, Southport Refining Co., was elected a vice president, as was G. L. Rowsey, president of Taylor Refining Co. L. F. Rothermel of Maritime Oil Co. was named treasurer. An executive secretary will be named in the near future.

One of the activities of the association will be the gathering, compiling and distribution of statistical and market data.

St. Paul Refinery, Minnesota's First, Nearing Completion

ST. PAUL, June 26.—Minnesota will join the list of oil refining states when the plant of the Northwestern Refining Co., at St. Paul Park a few miles south of St. Paul along the Mississippi river, goes on stream later this summer.

The 1500 barrel daily capacity plant will operate on Illinois crude transported in tank cars. Equipment being installed consists of skimming, cracking and Ethyl blending. The plant will produce gasolines, kerosine, and light and heavy fuel oils.

The seven Erickson brothers, marketers from Barron, Wis., are building the refinery. Arthur and Godfrey Erickson will be in charge of the plant. The refinery will supply the company's marketing facilities in the Twin Cities, Barron and Stevens Point, Wis., bulk plants, and the brothers plan to enter the Twin Cities fuel oil market this year.

Nebraska Truck Bill Enacted

LINCOLN, Nebr., June 22.—Bill No. 350 to increase weight and length allowed tractors and semi-trailers has become a law, although lacking the governor's signature.

Bill provides for an increase in weight from 32,000 to 40,000 pounds for trucks and trailers and a 20 per cent increase in length from 35 to 42 feet.

The length limitation increase is subject for further study and recommendations by the legislative council.

Iowa Jobber Hails Sinclair For 'Courage' in Price Hike

N. P. N. News Bureau

CLEVELAND, June 27. — Sinclair Refining Co.'s move to raise tankwagon gasoline prices was praised by G. D. Finnigan, Cedar Rapids, Ia., of Super Service Oil Co., in a letter to NATIONAL PETROLEUM NEWS. But he expressed the belief that the "scramble for gallonage" was undermining the mid-western price structure. Mr. Finnigan's letter follows:

"Answering your editorial in NATIONAL PETROLEUM NEWS under date of June 21, in regard to the Sinclair price raise of one-half cent per gallon on which you ask for comments, I wish to compliment Mr. Sinclair for the courage that he has displayed in trying to raise the price of gasoline in this territory, as it was a very constructive thought on his part. I really do not believe that Mr. Harry Sinclair actually knows himself what is taking place in this particular territory in his own sales organization in their scramble for gallonage along with the other so-called major oil companies sales forces.

"If the managements of these companies will take the time to investigate their own sales organizations policies, I believe they will find the thing that is destroying the market structure in this territory. It is within their power to straighten out this particular situation that exists today.

"You cannot blame the price maker; namely, the Standard Oil Co., in this territory, for not following Mr. Sinclair in his price advance when they are confronted every day by some of the other major oil company forces that are paying their commission agents excessive commissions, in my opinion, for the purpose of making it possible for the agents to rebate back to the consumer a part of their excessive commissions for the purpose of chiseling gallonage away from the legitimate company that is trying to hold his price to the published posted price.

"I personally know quite a lot of business that has been chiseled away from legitimate marketers that have been maintaining their posted price to the consumer and dealer by agents with excessive commissions rebating back one-half to one cent per gallon.

"That, in my opinion, is what is undermining the price structure in this territory and it is within the power of these sales executives to straighten out the situation. If this done, we will have no trouble in raising our price one-half cent per gallon but until that is taken care of it is useless for anyone to try to raise the price of gasoline in this territory.

"These are my personal views only and I believe that there could be a lot of good brought about and a much healthier market established if the sales executives of these major oil companies would take time enough to make a thorough investigation of their own marketing practices.

"I would appreciate it very much if you could bring this fact to the attention of the sales executives, I believe a lot of good could be accomplished.

"We all wish we could have higher prices and we are entitled to higher prices and more profits in our business than we are obtaining now, but there has to be a lot of house cleaning in our own yards before we expect any improvement in this industry."

Travis Disposes of Holdings In Southport Company

HOUSTON, Tex., June 26. — Marion Travis of Houston has disposed of his interest in Southport Petroleum Co. to the American Liberty Oil Co., producers in the East Texas and Conroe fields, according to an announcement late last week. Cornelius Kroll, a partner in Southport enterprise, is understood to have retained his interest and will remain as operating head.

The Southport plant, one of the most modern of the smaller independent units on the Gulf coast, has a capacity of approximately 20,000 barrels daily. The company has built up quite an extensive retail distribution in the vicinity of Houston and along the adjacent Gulf coast. Only a short time ago Southport entered the southeast with water terminals at several points.

70-Octane Third Grade Put in at New Orleans By Louisiana Standard

By Telegraph

NEW ORLEANS, La., June 27.—Standard Oil Co. of Louisiana has introduced a new 70.5 octane (CFR motor method test), leaded gasoline in New Orleans and environs, it was reported here. The product is marketed under the name of "Standard leaded gasoline" and was introduced, it was said, to meet local competitive conditions in that vicinity; elsewhere in Louisiana, Standard's 60 octane unleaded white gasoline is sold at so-called "third grade" pumps.

A leaded "third grade" gasoline of about 70 octane (CRF motor method) was recently introduced by the Louisiana Standard in Tennessee, officials said.

In Standard's Louisiana, Arkansas and Tennessee marketing territory, the company is reported to be marketing a 74.5 octane (CFT motor method) leaded gasoline as house brand and as 82 octane (CFR motor method) premium grade or Ethyl gasoline.

'Alky-Gas' Musters 28 Votes in Senate

N. P. N. News Bureau

WASHINGTON, June 26. — Proposal of Senator Chan Gurney (S. D.) to exempt 10 per cent blend of "alky-gas" from the federal gasoline tax lost by only 10 votes—38 to 28—in the Senate last week.

Hearings on the proposal, along with the bill of Sen. Gillette (Iowa) to exempt a 7 per cent alcohol blend motor fuel from the tax, were held last month (N.P.N. May 31, p. 26), but no report has been made by the committee.

Texas 'Extends' Borders 24 Miles to Sea

AUSTIN, Tex., June 24.—An additional 24 miles were tied onto Texas' Gulf coastal boundary by the state legislature when it pushed through a bill extending the state's sovereignty 27 miles out into the Gulf of Mexico. The rules had to be suspended in the closing hours of the legislature to get the bill through, but it was accomplished.

The measure was designed to protect for the state the potential oil production along the Gulf coast. It has been variously estimated that some two to four billion barrels of oil reserves may lie under the Gulf's waters out beyond the old three-mile limit and the point where drilling could not be done.

Louisiana some time ago pushed its state line out into the Gulf for a distance of 27 miles.

DEATHS

So widespread is the oil industry that many friends are separated for years. NPN would like friends and relatives of any deceased oil man to send in notice of his passing for publication.

Joseph F. King

Joseph F. King, formerly sales manager of Waverly Oil Works Co., Pittsburgh, Pa., died from a heart attack at his home in East End, Pa., June 22. He was 46 years old and had been with Waverly for 19 years. He resigned from Waverly June 1 to devote his entire time to his own company, the King Waverly Co., which he formed a year ago and which distributed Waverly oils in Allegheny County, Pa. (Pittsburgh).

* * *

E. E. Cooper

Edgar Eugene Cooper, star football player at the University of Tulsa in 1933, 1934 and 1936, died June 25 from burns received June 17 in a gas explosion at his home on an oil lease near Pampa, Tex. Burial was at Cherryvale, Kan.

* * *

Mrs. John D. Archbold

Mrs. Elizabeth Brown Archbold, 25, wife of John D. Archbold, grandson of the late John Dana Archbold, former president of the Standard Oil Co. of New Jersey, died June 23 in New York of a streptococcus infection.

* * *

N. W. Davis

Nestor Wilbur Davis, private secretary to John D. Rockefeller, Sr., for 15 years, died at his home in Winchester, Mass. recently at the age of 70. He had been secretary to other leading business executives for nearly 50 years.

* * *

V. M. Knecht

V. M. Knecht, buyer in the purchasing department of The Pure Oil Co., Chicago, died of a heart attack June 25.

Oklahoma Oil Hearing Set

TULSA, June 26.—Oklahoma Corporation Commission has set June 29 as the date for hearing testimony on which to base the Oklahoma July crude production allowable. Operators and purchasers have been called to meet the morning of June 29 with Conservation Officer W. J. Armstrong to discuss market demand for Oklahoma crudes during July.

California Enacts Oil Bill But Referendum Fight Looms

N. P. N. News Bureau

LOS ANGELES, June 26.—Only "worthwhile" measure enacted by the California legislature, adjourned June 21, was the Atkinson Bill for state control of oil production, according to Governor Olson in a radio talk last night.

This was taken as assurance that the Governor would sign the bill which was passed after hope for a proration law had been virtually abandoned. Early in June, following a Democratic Party caucus, the state administration announced that it had abandoned plans for oil legislation at this session.

However, at the urgent request of oil companies themselves, the Secretary of the Navy, Secretary of the Interior and President Roosevelt, the Atkinson Bill sponsored by the C.I.O.—Oil Workers Union, was revived and passed by the Assembly and then the Senate. It was expected that Governor Olson would sign it into law before the 10-day deadline June 29.

Modeled after the New Mexico law, the Atkinson measure gives a three-man political commission to prorate California oil production and enforce allowables as a conservation measure. The director of natural resources will be the executive officer and will receive $4000 in addition to his present salary of $6000. Rumors of possible appointments to this post range all the way from the Governor's oldest son Dick, to a much more logical selection of J. R. Pemberton—oil umpire under the voluntary curtailment program. Directors of public works and finance will complete the commission.

Powers of the commission do not rest with regulating oil and gas production, but permit a large-scale study of the West Coast industry with a view to future legislation, possibly even to making the California oil industry a public utility.

The commission is empowered to examine all properties, leases, books, and records; to test and gauge all oil and gas wells, tanks, plants, refineries, transportation facilities and equipment; to study all phases of the oil industry right down to the ultimate price paid by the consumer.

It has the authority to hold hearings with power of subpoena, establish methods of record keeping and reporting, issue certificates of clearance or tenders on transportation of products, fix drilling units—well spacing, confiscate and sell "illegal" or "hot" oil, and allocate field and well allowables.

Bureau of Mines data on the industry will be considered under terms of the act as prima facie evidence on market demand. However, the final figures and estimates for predicating quotas will be determined by the commission's own research and statistical bureau.

Stripper wells of 25 barrels daily potential or under are eliminated from the prorate provisions, well-spacing is limited to one to 40 acres, and there is a prohibition against proration based on the cubical content theory.

An earlier amendment to permit transfer of allowables between wells in any one field, or between fields, was eliminated in the measure as finally passed. Some observers believe provisions remaining in the bill definitely forbid this practice.

The Atkinson Bill, as passed, does not meet with entire approval of even those groups in the industry who have campaigned for statutory control of crude oil production, but it was the only measure acceptable to the administration, and its support was needed to pass the bill. Proponents of oil control within the industry, therefore lined up behind it rather than risk another two years of unregulated production.

Opponents of state control—including some relatively large producers and refiners—have indicated they will back a referendum action against the approved measure as soon as the Governor signs it. Ordinarily the measure would become effective 90 days after receiving his signature, but a referendum would delay its operation until it had been put to a vote of the people in the 1940 general election, unless a special election is called. To force a referendum 132,573 signatures of qualified voters are necessary.

This was the strategy successfully used in defeating the Sharkey Bill, which was passed in 1934 to regulate California oil production. Attacked by referendum, this law went down to defeat by a vote of 1,100,000 to 300,000, or about four to one.

Greatest problem facing the oil industry in the immediate future is the fear that some producers will begin flowing their wells wide open in an effort to obtain all the production possible before control is clamped on. The central committee of California producers issued a statement through its chairman, Lawrence Vander Leck, pointing to possible delay in operation of the Atkinson measure and urging compliance with the voluntary curtailment program.

Operators who have been curtailing were said to have given assurance that they would continue their co-operative efforts.

"It is the sense of the committee," Vander Leck said, "that at this time its existence and continued efforts toward curtailment are extremely important and all operators are urged and asked to continue their support and adherence to schedules sent out by the central committee."

On June 22, the central committee approved a July crude production quota of "not to exceed 295,000 barrels daily". It was expected the actual quota would be about 592,000 barrels, which would be approximately 4000 barrels a day above the figure of approximately 588,000 barrels used in June.

Actual production for June 21, showed the state output at 610,662, with the average for the first 21 days 609,611 barrels, compared to 620,923 barrels in the same May period. On the 21st fields in the San Joaquin Valley underproduced their allotments by 3005 barrels. However, the Kettleman Hills North Dome field was in excess of its allowable by 13,673 barrels.

Coastal fields were under their combined allowable by 3470 barrels, but in the Los Angeles Basin the output was 27,885 barrels in excess of quotas for all fields in this area. Wilmington with a production of 82,157 barrels and an allotment of 75,447 barrels, was the outstanding offender.

Illinois Producers To Meet in Chicago

CHICAGO, June 26.—A joint luncheon meeting of Independent Oil Producers Association of Illinois and Chicago Association of Commerce will be held at Great Northern Hotel here, June 28.

H. B. Fell, executive vice president of Independent Petroleum Ass'n. of America and Charles Van Vleck, executive vice president of the Illinois producers association will speak.

The Illinois association has vigorously fought for state proration legislation contending that over production and waste are increasing with the constantly expanding rate of daily output which has already resulted in a considerable loss to producer and business men in the state.

Refiners Group Called by Jury On West Coast

N. P. N. News Bureau

LOS ANGELES, June 24.—Marketing department heads of major and independent oil companies in California took their turn the past week in testifying before the federal grand jury here investigating alleged violations of anti-trust laws by the West Coast oil industry.

Some witnesses were reported refusing to waive immunity and were also disinclined to make statements to the prosecuting attorneys in the presence of a stenographer prior to their appearance before the grand jury.

A subpoena duces tecum was served on the Independent Refiners Ass'n. late in the week and the five legal-size pages listed data, books, records, telegrams, letters, and so on, to be submitted to the grand jury June 27th.

The subpoena also calls for all correspondence, contracts, agreements and options relating to purchase, sale or commitment of gasoline or other products between the Association and purchasing companies, which are specifically named.

The I.R.A. was formed in February, 1936, as a licensed broker of gasoline in the state of California, and was designed as an aid to certain members who were not able, in the absence of extensive marketing distribution, to dispose of all of their products. The association acts as a common selling agency or clearing house for the amount of gasoline tendered by its members. It has a membership of 30 independent California refiners.

Pattern for the organization was said to have been taken from the Appalachian Coal Co. case in which federal courts approved a similar marketing agency for a group of coal operators.

Michigan Oil Show Cancelled

CHICAGO, June 26.—Eastern States Oil and Gas Exposition, scheduled for August 1 to 6 at Mt. Pleasant, Mich., has been cancelled, according to an announcement by H. B. Lidstone, secretary of Mt. Pleasant Chamber of Commerce.

Gasoline Men Set Date

TULSA, June 26.—Nineteenth annual convention of the Natural Gasoline Assn. of America will be held May 15, 16 and 17, 1940, at Hotel Tulsa, Tulsa, according to William F. Lowe, secretary.

Applying Rotary's Ideals Would 'Remedy' Oil's Ills

N. P. N. News Bureau

CLEVELAND, June 26.—The application of one of the cardinal principles of Rotary, "high ideals in business and professions," as a cure for the ills of the oil industry, was discussed by 62 Rotarians connected with oil companies, at the vocational craft conference held in connection with the international convention of the organization here June 19-23. Nearly 10,000 Rotarians, from 38 countries, attended.

Arch Stafford, recently retired vice-president of Quaker Petroleum Co. of Omaha and chairman of the craft conference, outlined the objects of the meeting as a discussion of the relations of the oil industry to the public; to labor and man-to-man within the industry itself.

He stressed as a keynote of the meeting the value of cultivating the friendships of competitors within the industry.

The Rotarians discussed competitor and labor problems they have faced in all branches of the industry. More than 20 of the oil men attending addressed the group.

Joe Morehead of Oil City, secretary of the Pennsylvania Grade Crude Oil Ass'n., pointed out the need for the industry to win back public confidence. He urged oil Rotarians to be leaders in promoting good will.

Frank L. P. Kelley of Wilkinsburg, Pa., dealer, vice-chairman of the conference, told how retail price conditions have improved in his community by the mutual co-operation and good will of dealers. He asked that competitors who do not belong to Rotary be invited to meetings as guests to learn the spirit of Rotary.

P. W. Close of Cleveland, Standard Oil Co. of Ohio, and local host to oil Rotarians, talked on good will and public relations for the oil industry.

The practice of meeting competitive jobbers and making friends with them was suggested by LeRoy C. Snyder, jobber of Blaine, Nebr., who showed the necessity of a fair profit for the continued existence of the oil industry.

T. J. Wiggins Cleveland, National Refining Co. spoke on the importance of the oil industry as one of the leading industries of the country.

D. H. Conway of Uniontown, Pa., representative for Pennzoil Co. was secretary of the Rotary oil conference.

'Patent Club' Lawsuit Hearing Is Deferred

DETROIT, June 26.—Details of a new phase of the $30,000,000 suit brought by the Chemical Research Corp., involving the interest of Gyro Process Co. in various patents dealing largely with polymerization, are still being "suppressed", according to W. H. Gallagher, attorney representing the plaintiffs in the case. Hearing of the suit will not open for several months, Gallagher said, and all summons have not yet been served under the latest action, he stated. The filing of a praecipe against eight oil companies and naming 12 oil company officials was reported a week ago.

The case, under hearing from time to time for more than a year, was reopened a year ago against five companies. Gyro claimed at that time that, under an agreement made some years ago with defendant companies, rights and ownership in all patents and developments of these companies were to go to the Gyro company. The defendants claimed that the inventions mentioned in the bill are new developments that grew out of old patents originally involved in the agreement with the Gyro company.

Federal Gasoline Tax Receipts Are 5% Above 1938

N. P. N. News Bureau

WASHINGTON, June 26.—Receipts from federal gasoline tax so far this year are 5 per cent above January-May figures for 1938, Internal Revenue Bureau reports. Collections this year totaled $78,994,140 compared with $75,206,707 for same period in 1938. May collections were up 13 per cent above corresponding 1938 month's total—$16,376,983 against $14,380,266.

Lubricating oil tax collection figures tell a similar story. In May the tax brought $2,551,012, making the five-month total $11,239,731, more than 5 per cent over $10,624,789, collected during January-May in 1938.

May tax collections on pipeline transportation were above corresponding month in 1938, for the first time this year, but the $904,957 total (compared with $800,380 for previous May) was unable to pull the five-month sum, $4,402,778, up to January-May total for last year, $5,007,886.

'Oil Needn't Worry,' Says New Louisiana Chief

By Telegraph

BATON ROUGE, La., June 27.—The oil industry, Louisiana's new governor, Earl K. Long has announced, has nothing to fear from him. He is a believer in conservation and the industry will find him willing at all times to co-operate, he announced prior to his elevation from the lieutenant governorship to the role of the state's chief executive.

The brother of the late Huey P. Long became governor when Governor Richard Leche resigned, presumably due to ill health as political scandals began exploding with the rapid regularity of a package of giant firecrackers.

Toll Road Plan Urged By FDR

N. P. N. News Bureau

WASHINGTON, June 26.—Despite earlier indications that any new public works program would not contain any toll-road proposals, the President's message to Congress requesting a $3,060,000,000 self-liquidating program estimates expenditures of $750,000,000 over a four-year period for construction of "self-liquidating toll roads, bridges, high-speed highways and city by-passes."

At a special press conference called to discuss the message, the President pointed out that the plan he had in mind for the self-liquidating highways conformed in general to the recommendations of the Bureau of Public Roads (N.P.N. Mar. 29, p. 33). BPR advised against construction of a network of "superhighways" across the country, Willy-Nilly suggesting a series of new primary roads between population centers, as well as construction of new city-entrance and exit arteries and by-passes around cities for through traffic.

The President also reiterated his belief in the theory of excess condemnation of lands adjacent to the proposed express highways, a theory he has repeatedly espoused as a method of recoupment through lease and sale of adjacent condemned lands, in order that the government, rather than individuals, may profit by the unearned increment. Apparently, this plan contemplates the government leasing sites for filling stations and other roadside businesses.

The President's plan, however, is running into formidable "snags" on capitol Hill, not only among Republicans but some of the conservative Democratic legislators. Rep. Dudley A. White, Ohio, Republican member of the House Appropriations Committee, in a statement issued by the Republican National Committee, characterized it as "not only another ascent into the stratosphere of New Deal jitterburg economics, but, if adopted, it would be the first major step toward state socialism under which the federal government would take over private industry and the United States would become a totalitarian nation."

Most startling element of the proposal was seen in the line "there seems no reason why there should not be adopted as a permanent policy of the government the development and maintenance of a revolving fund fed from the earnings of these government investments and used to finance new projects at times when there is need of extra stimulus to employment."

Among other types of projects which the President would have financed under his plan are water works, sewage, bridges, hospitals, etc.; purchase of railroad equipment for sale or lease to the railroads; rural electrification and the farm tenant program, and short and long term loans to foreign governments to promote our foreign trade.

Clearly, say opponents of the proposal, these are moving over closer and closer to the point where it will be just a step into the government financing and taking over industries heretofore regarded as private enterprises.

Louisiana Allowable Set

BATON ROUGE, June 26. — Louisiana Conservation Commission has set the July crude production allowable of the state at 264,163 barrels daily, an increase of 1140 barrels daily from the June figure.

South Louisiana fields were given an increase of 2815 barrels daily, while north Louisiana fields, where there has been some distress oil, were reduced a total of 1735 barrels daily.

July Gasoline Demand To be 11% Above 1938

N. P. N. News Bureau

WASHINGTON, June 26.—Domestic gasoline demand in July is estimated by the Bureau of Mines at 52,600,000 barrels, 11 per cent above the "abnormally" low actual demand for July, 1938, and more than 6 per cent over the estimated normal demand for July.

Motor fuel exports in July were estimated at 4,200,000 barrels, about 100,000 barrels less than for June. Stocks of finished and unfinished gasoline, the Bureau estimated, would be around 78,300,000 barrels on July 1, and forecast another 6,000,000 barrel decrease in July, which should make August 1 stocks about 72,300,000 barrels.

To meet demand, the Bureau estimated the daily average supply of domestic crude at 3,513,200 barrels, which is 22,000 barrels more than June estimate and 2 per cent more than actual demand in July last year. Estimated daily runs to stills, 3,345,500 barrels, is 124,300 barrels higher than actual runs for July, 1938. Crude oil export estimate is down, however, to 6,400,000 barrels or 850,000 barrels less than July, 1938, actual.

Benzol and direct sales of natural gasoline are estimated as 1,000,000 barrels, making refinery production 49,800,000 barrels. This is distributed among the various refining districts as follows:

District	Barrels
East Coast	6,540,000
Appalachian	1,840,000
Indiana-Illinois	8,880,000
Oklahoma	2,950,000
Kansas-Missouri	2,460,000
Texas Inland	3,620,000
Texas Gulf Coast	13,260,000
Louisiana Gulf Coast	1,520,000
Inland Louisiana-Ark.	960,000
Rocky Mountain	1,260,000
California	6,510,000
Total U. S.	49,800,000

Blending of natural gasoline at refineries in July is estimated as 6.5 per cent of total production or 3,240,00 barrels; estimated gasoline yield, 44.9 per cent.

Allowing for exports, and for fuel and losses amounting to 1,800,000 barrels, the total domestic demand is arrived at of 108,910,000 barrels, or 3,513,200 barrels daily.

Arizona Gets Oil Producer

PHOENIX, Ariz., June 26.—State Geologist D. A. Holm has announced completion of an exploration well as an oil producer in Maricopa county. The well was drilled to 1740 feet, and is capable of producing 260 barrels of oil daily, Mr. Holm reported.

This is the first oil discovery in Arizona, it was said, although some 60 or more wildcat tests have been drilled in the state in the past 30 or more years.

South Dakota Attempts to Clear Up Its New 'Blue' Law on Tractor Fuels

N. P. N. News Bureau

TULSA, June 21.—Some of the mixup in tractor fuel specifications as written in the new South Dakota law apparently has been eliminated as a result of a ruling which becomes effective July 1, Western Petroleum Refiners Assn. here, has been notified.

Guy G. Frary, state chemist, advised the association that "On and after July 1, fuels having an initial boiling point not lower than 250 degrees F. and a flash point not lower than 100 degrees F. (Tag closed cup) may be sold in South Dakota as distillates, tractor distillates, etc., but not under or by the name 'tractor fuel.' All distillate must be straw color or darker."

State Chemist Frary also advised that "Tractor fuel must conform to the law of 1939, which specifies initial not lower than 200 degrees F., 95 per cent point above 464 degrees F., and end point not over 500 degrees F. It also must be blue in color."

The main difficulty over the new law in South Dakota apparently was caused by the requirement that tractor fuel must be colored blue. Refiners also would have preferred an end point up around 530 degrees F.

Most of the tractor fuel, it was pointed out, is not treated for color and accordingly has its natural straw or yellow color. The use of a blue dye, therefore, resulted in a green-colored product, refiners said.

If the law was adhered to as written and passed by the legislature, it was pointed out, the tractor fuel sold in South Dakota would have to be treated before the color could be added, an operation many refiners felt was not only too expensive but not justified.

The new ruling announced by the state chemist apparently provides a method for selling untreated tractor fuel in the state provided it is called distillate, farm distillate or tractor distillate.

'Gas' Stocks Drop Sharply

NEW YORK, June 27.—Gasoline stocks at U. S. refineries dropped 924,000 barrels in the week ended June 24, according to a report of refinery operations compiled today by the American Petroleum Institute. Gasoline production, however, increased 189,000 barrels during the same period.

Daily average crude runs to stills were off 50,000 barrels, the Institute's report shows, with plants reporting to the Institute operating at 84.3 per cent of capacity, against 85.7 per cent the week previous. With the exception of the East Coast and North Louisiana-Arkansas areas, plants in the country as a whole reduced operations during the week.

Both gas oil and distillate and residual fuel stocks dropped 174,000 barrels at refineries during the week.

Illinois Crude Output Again Hits Record High

CHICAGO, June 26.—Oil production in Illinois set a new all-time high last week with a daily average of 234,516 barrels. Approximately 227,228 barrels were from new fields and 7288 barrels were from old pools.

Crude Stocks Up

WASHINGTON, June 24.—Stocks of crude petroleum were up 160,000 barrels during the week ended June 17, Bureau of Mines reports, totaling 274,852,000 barrels on that date. A 419,000-barrel increase in domestic crude stocks was partially offset by a drop of 259,000 barrels in stocks of foreign crude. A year ago stocks totaled 295,931,000 barrels.

Stocks by grade or origin in tabulated form will be found below.

Estimated Daily Average Crude Oil Demand By States*

(As no changes in crude oil stocks are involved in these estimates, they represent demand rather than production)

State	Forecast July	Forecast June	Actual demand July
Texas	1,426,500	1,427,300	1,347,000
California	595,200	594,600	655,000
Oklahoma	456,100	450,300	555,000
Louisiana	264,500	265,000	252,000
Illinois	187,400	174,300	44,000
Kansas	160,300	152,000	164,000
New Mexico	116,100	117,000	121,000
Wyoming	73,200	73,300	82,000
Arkansas	53,900	54,700	68,000
Michigan	53,200	53,400	57,000
Pennsylvania	50,800	50,200	42,000
Montana	16,100	17,300	11,000
Kentucky	15,900	17,000	17,000
New York	15,400	14,900	10,000
Ohio	10,500	10,900	7,000
West Virginia	10,700	10,700	10,000
Colorado	4,800	5,000	4,000
Indiana	2,600	2,700	3,000
	3,513,200	3,491,000	3,449,000

*As calculated by the U. S. Bureau of Mines.

Weekly Changes in U. S. Crude Oil Stocks*

(Thousands of Barrels)

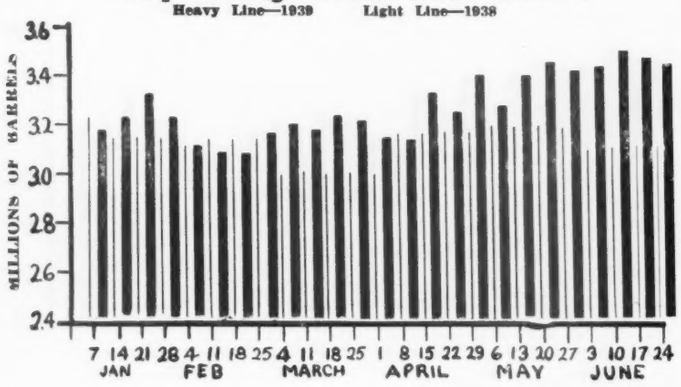
Grade or Origin	June 3	June 10	June 17	Chng. from June 10
Pennsylvania grade	5,649	5,645	5,607	— 38
Other Appalachian	1,199	1,202	1,211	+ 9
Lima-Michigan	2,090	2,146	2,128	— 18
Illinois-Indiana	13,511	13,583	13,963	+380
Arkansas	3,431	3,514	3,343	—171
Kansas	7,159	7,192	7,037	—155
Louisiana	13,837	13,684	13,624	— 60
Northern	5,825	5,801	5,724	— 77
Gulf Coast	8,012	7,883	7,900	+ 17
New Mexico	6,455	6,558	6,819	+261
Oklahoma	69,663	69,425	69,434	+ 9
Texas	91,834	89,238	89,990	+752
East Texas	21,350	20,065	20,001	— 64
West Texas	16,521	16,328	16,602	+274
Gulf Coast	21,865	21,087	21,098	+ 11
Other Texas	32,098	31,758	32,289	+531
Rocky Mountain	19,955	19,837	19,707	—130
California	39,812	39,092	38,672	—420
Foreign	3,352	3,576	3,317	—259
Total United States refinable	277,947	274,692	274,852	+160
Heavy in California	14,330	14,400	14,460	+ 60

*As compiled by U. S. Bureau of Mines.

Latest Oil Industry Statistics

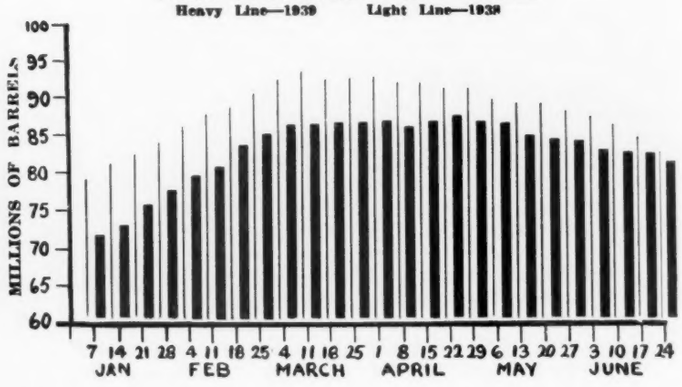
Daily Average Crude Runs to Stills

Heavy Line—1939 Light Line—1938



Total U. S. Motor Fuel Stocks

Heavy Line—1939 Light Line—1938



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended		Per Cent of Reporting Capacity Operated Week Ended		(a) Gasoline Production Week Ended		Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended		Stocks of Gas Oil & Distillates At Terms. At Refineries Week Ended		Trans. Pipelines Week Ended		Stocks of Residual Fuel Oil At Terms. At Refineries Week Ended		Trans. Pipelines Week Ended	
	June 24	June 17	June 24	June 17	June 24	June 17	June 24	June 17	June 24	June 17	June 24	June 17	June 24	June 17	June 24	June 17
East Coast	576	541	93.7	88.0	1,614	1,490	21,802	21,656	3,881	3,539	4,763	4,935	4,130	3,758	3,774	3,995
Appalachian	108	109	84.4	85.2	418	396	3,310	3,304	275	266	83	62	393	394	....	....
Ind., Ill., Ky	473	492	92.0	95.7	2,048	1,972	13,152	13,229	2,767	2,648	519	487	2,784	2,806	38	42
Okla., Kans., Mo	278	279	81.3	81.6	(c)985	(c)901	7,280	7,314	1,321	1,270	49	53	2,830	2,759	....	....
Inland Texas	120	135	75.5	84.9	526	556	1,581	1,577	319	301	....	....	1,776	1,757	....	....
Texas Gulf	819	838	91.5	93.6	2,609	2,669	9,215	10,134	3,673	3,885	440	334	5,549	5,416	223	240
La., Gulf	132	132	91.0	91.0	341	348	2,526	2,579	904	912	23	25	1,501	1,485	216	247
No. La., Ark	43	41	78.2	74.5	126	109	523	473	275	271	14	16	595	596	....	....
Rocky Mt	44	53	68.8	82.8	190	204	1,628	1,688	109	111	....	....	599	588	....	....
California	495	519	66.4	69.7	1,422	1,468	15,596	15,633	8,513	8,665	1,636	1,597	60,662	61,091	24,371	24,770
Total Reporting	3,088	3,139	84.3	85.7	10,279	10,113	76,613	77,587	22,037	21,868	7,527	7,509	80,819	80,650	28,622	29,294
U. S. Total (d)	3,430	3,480			11,648	11,459	81,733	82,657	22,712	(e)22,538	7,527	7,509	83,104	82,930	28,622	29,294
U. S. Total 6-24-39 (d)	3,129				10,324		82,054		24,236				112,713			

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis.
(e) For comparability with last year these figures must be increased by stocks "At Terminals, etc." in California district.

Trends of Basic Figures

	June 24	June 17	June 24, 1938
Crude Production (Bbls. daily)	3,452,800	3,447,050	3,083,900
Crude Imports (Bbls. daily)	124,860	133,000	49,000
Crude Runs to Stills (Bbls. daily)	3,430,000	3,480,000	3,129,000
Gasoline Stocks (Bbls. total)	81,733,000	82,657,000	82,054,000
Gas Oil & Distillate Stocks (Bbls. total)	30,239,000	30.047,000	*
Residual Fuel Oil Stocks (Bbls. total)	111,726,000	112,224,000	*

*Comparable figures not available.

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended June 24 Barrels	Week Ended June 17 Barrels	Week Ended June 10 Barrels
Oklahoma	458,750	453,500	439,250
Kansas	168,000	168,550	151,600
Texas	1,308,850	1,294.450	1,281,000
Louisiana	270,100	275,350	267,800
Arkansas	56,500	57,350	56,900
Illinois	233,850	234,650	222,200
Eastern (Ill. excluded)	95,600	95,900	95,500
Michigan	66,600	66,800	66,950
Wyoming	61,350	63,300	62,700
Montana	15,950	14,950	15,350
Colorado	4,050	3,850	3,800
New Mexico	106,600	105,900	110,800
California	606,600	617,100	603,100
Total U. S.	3,452,800	3,447,050	3,376,950
Crude Imports	124,860	133,000	154,860
Total New Supply	3,577,660	3,580,050	3,531,810

Inventories, May 31, 1939, of Pennsylvania Lube Oils

(Compiled by National Petroleum Ass'n from reports of all companies which refine Pennsylvania crude oil. Figures in barrels.)

Raw Long Residuum (Including all raw long residuum below, and not salable, as 600 fire)	24,373
Steam Refined (Includes all steam refined stock commonly sold or used as 600 and as raw material for bright stocks)	185,021
Other Steam Refined (Not included in above items)	117,660
Finished Dewaxed Long Residuum	40,989
Bright Stock (Does not include any material reported in Finished Dewaxed Long Res.)	370,928
Viscous Neutral, below 180 vis. but not below 142 vis. at 100	127,888
Viscous Neutral, 180 vis. at 100 and above	168,487

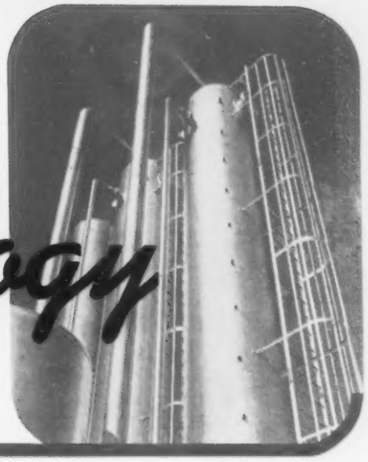
Inventories, May 31, 1939, of Pennsylvania Oils Other Than Lubricating Oils

(Compiled by National Petroleum Ass'n from reports of oil region refiners. Figures in barrels.)

Naphthas and Gasolines	
(1) Straight run, unblended and/or unleaded, for sale as motor fuel	33,369
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	353,607
(3) Below 65 octane, not included in (1) or (2) above	7,274
(4) 65 Octane and above	482,287
Salable naphthas other than motor fuel material (do not include refinery process naphthas)	28,285
Kerosine	80,269
36-40 gas oil (include furnace oil)	45,901
Fuel oil (not reported above)	18,448
Oils held as cracking plant charging stocks	263,478
Non viscous neutral	18,695
Wax distillate	93,503
Crude petroleum	9,443
Wax (lbs.)	5,514,431

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY



Dear Reader:

Meeting at Atlantic City this week is the American Society for Testing Materials which for 42 years has been one of the strongest forces in shaping the trend and progress of American industry. This year the society has been under the leadership of Dr. T. G. Delbridge of Atlantic Refining Co. In 1931 Dr. K. G. Mackenzie of The Texas Co. was the first oil man to be president of the society.

When the A.S.T.M. was first organized in 1897 it was known as the American Section of the International Association for Testing Materials. The present society was incorporated in 1902 when it was seen that a separate organization was necessary to cope with the peculiar problems of American technology.

Test methods of the A.S.T.M. probably are used more widely than those of any other organization of its kind in the world. For the oil industry as well as many others the society is the arbiter of testing procedures and their development. No method is considered standard by American refiners until it is accepted by the society.

★ ★ ★

Test methods which we used so universally in the industry did not reach their present form overnight. Not so many years ago the situation was intolerable. Every man spoke a different language. The flash point of kerosine was one thing in this laboratory, something very different in that.

It must not be supposed that the standard tests we have today were adopted always in polite conferences. Oil refiners always have been individualists. They developed their own tests and they stood up and fought for them. Refiners fought for their own test methods, not just for the joy of winning the battle, but because each man was genuinely convinced that his test was the best.

★ ★ ★

At this week's meeting L. C. Beard, Jr., of Socony Vacuum Oil Co., chairman of Subcommittee XXIII, will report that his committee has found the Ramsbottom Carbon Residue Test developed by the Institute of Petroleum of Great Britain to be more reproducible than the A.S.T.M. standard Conradson method.

Probably there will be less heat developed in the adoption of the British method than there was some years ago when the Conradson method first was adopted. The story is told that the battle was a particularly hot one. The present head of the A.S.T.M. was on one side of the argument over one detail and the opposition was led by a technologist of national repute employed by another member of the Standard group of companies.

During an intermission Dr. Delbridge was cornered by his opponent who took him to task for disloyalty to the group. "Look here," he scolded, when all other arguments had failed, "we belong to the same family of interests, sister companies. We ought to stick together on such things."

That argument didn't win either. The argument was fought out strictly on the merits of the two alternatives.

★ ★ ★

One battle that raged long within the A.S.T.M. had to do with the choice of instruments for testing viscosity. The Saybolt machine, now called the Saybolt Universal, was mostly used by the industry because of the big water bath that made control easier. Committee D-4 on road and paving materials strongly favored the German Engler machine with small tube and small water bath. To solve the problem the larger orificed Saybolt Furol tube was adopted for heavy oils and the Engler machine passed out of American practice.

Even this did not end all controversy on viscosity. Viscosity determination confusion persisted. So finally a group of oil men headed by Van H. Manning of the A.P.I. staff and a former director of the Bureau of Mines, went to Washington "To raise hell with the Bureau of Standards," because no two laboratories should get the same viscosity for the same oil.

At the Bureau of Standards the committee checked the master tubes and found some of them wanting in accuracy. These were thrown out, new tubes were provided, and the industry was on its way toward final clarification of the muddle.

The A.P.I. has worked closely with the A.S.T.M. in many instances like that mentioned above as have other associations such as the National Petroleum Association. The A.P.I. committee on viscosity standards has paid its own way and made a profit by developing and selling standard viscosity test oils to research and testing laboratories.

The A.S.T.M. has 63 divisions known as standing committees, each working for its own industry. These have 500 tests methods under study, some of which will join the 511 standards and 436 tentative standards already approved. Committee D-2 of the oil industry has perfected 44 standard tests. But its work is not over. Today 27 tests, specifications and definitions are being worked on by 24 subcommittees. Five technical committees are studying every phase of gasoline, Stoddard solvent, lubricating oils, burner and diesel fuel oils.

Very truly,

J. C. Chatfield

Managing Editor,
Refining Technology Edition.

The reactors and supporting structure constitute the heart of co-operative polymerization unit. They consist of two banks of 16 parallel-connected tubes of 6-inch I.D. tubes jacketed by 8-inch water-filled tubes. The instrument panel or control board for the unit is shown to the left

729.7

Co-operative Catalytic Poly Plant Operates at 1100-1200 Pounds

By M. G. Van Voorhis
N. P. N. Staff Writer

Abstract

Four western Pennsylvania refiners who have been operating a Dubbs cracking plant co-operatively for the past eight years have added a U.O.P. catalytic poly unit to further improve the overall yield of gasoline and its octane number.

The new unit operates at 1100-1200 psi. whereas most similar units heretofore built operate at 350-400 psi. To get maximum yield of highest anti-knock value the cracked gasoline is stabilized down to 6 pounds Reid. This enables the operators to utilize considerable quantities of butane and still keep vapor pressure of the final product low.

EIGHT years ago four companies, The Pennzoil Co., The James B. Berry Sons' Co., Continental Refining Co., and Wolverine-Empire Refining Co., entered into a co-operative arrangement whereby a jointly owned cracking plant was constructed. One of their most important objectives was improvement of anti-knock quality of motor fuels and they were able to produce a motor fuel of 67 octane number which was an improvement of 17 numbers over the straight-run product.

Today the octane number of cracked gasoline from this co-operative plant is 69. This was brought about by the addition of a U.O.P. catalytic polymerization unit. One day recently this unit produced 253 barrels of 85 octane number polymer gasoline. This was blended with 149 barrels of butane and 5669 barrels of cracked gasoline to produce 6071 barrels of 69 octane number fuel with a vapor pressure of 10 pounds Reid. Vapor pressure of the cracked gasoline was 6 pounds while that of the polymer gasoline was 10 pounds. The addition of butane was sufficient to raise the vapor pressure of the blend to 10 pounds.

The 253 barrels of polymer gasoline were produced from a charge of 836 barrels of stabilizer gases containing 42.2% olefins. This is equivalent to about 1,300,000 cu. ft. of gas at 60° F. charged on this particular day. The addition of the polymerization unit increased the gasoline recovery from the cracking unit charges by about 3.5% on the day in question, and raised the octane number of the cracked gasoline from 67 to 69 in the final blended product.

P. M. Robinson, Pennzoil Company engineer, summarized recently in a paper before the Pennsylvania Grade Crude Oil Association the average products and percentages

of each that are produced from one barrel of Pennsylvania crude oil. His figures show that about 41% of the fractionated products from the crude are cracked to yield about 75% gasoline. Of the remainder, 12.5% are gases of which about 42.5% are polymerizable olefins.

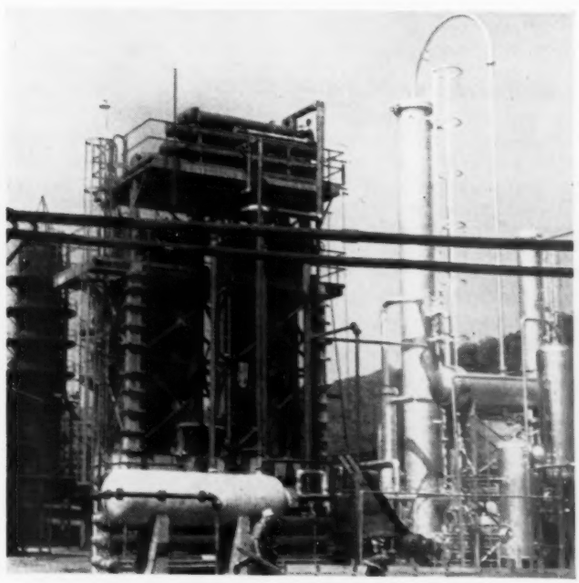
To get the whole picture of gasoline production from Pennsylvania crude when both cracking and polymerization processes are provided, the following average figures are given: 33% straight run gasoline, 30.75% cracked gasoline, and 2% polymer gasoline. With losses deducted this adds up to about 63.3% gasoline yield from the crude. Of the remainder, 7% is neutral oil and 14.75% is bright stock which are used in lubricating oils. The 2% polymer gasoline is computed on the basis of 95% conversion of the 42.5% of olefins present in the 12.5% of gases produced in cracking 41% of the crude.

One of the unusual features of this co-operative poly plant is that the catalytic reactions take place at 1100-1200 psi. pressure as compared with the 350-400 psi. in most other poly plants. It is said to be the only poly unit operating at this high pressure. Another feature is that all of the equipment is located out of doors so that hazards from any possible leakage of gas are minimized. All of the heat requirements of the process are provided by heat of the polymerization reaction. Power for building up pressure is provided by electric motors, one 40 hp, one 10 hp and one 3 hp.

Feed stock for the polymerization unit is taken from three cracking unit stabilizers whose pressures have been raised to 200 psi. thus condensing all reflux and regular gasoline from the cracking unit without the necessity of additional condensing equipment. Cracked gasoline is stabilized to 6 pounds Reid vapor pressure and the condensed reflux, along with uncondensed gases, including all of the butylene, isobutylenes, and C4 cuts, is bled off to the poly unit.

The reflux leaving the three stabilizers is metered through three separate meters, the volume from each stabilizer being controlled by V-port flow valves set to hold a certain level in the reflux tanks connected with the three stabilizers. After passing through the meters the three charges are delivered to a common surge tank. At this point the pressure is the same as in the stabilizers and the temperature is 100° F. A little gas flashes off and goes back to reflux and waste gas.

The charge is then picked up by an electric motor driven centrifugal pump and the pressure boosted to 300 psi. The charge passes through another flow meter whose reading is checked against the sum of the three meters



A rear view of co-operative polymerization unit showing the reactors with feed preheaters above, settling drum in front, and poly gasoline stabilizer tower to the right. The high pressure pump and motor are shown at the right of the settling drum

Contents...

REFINING TECHNOLOGY

June 28, 1939

Four Pennsylvania refiners built a co-operative Dubbs plant eight years ago and increased the octane rating of their gasoline 17 numbers. Now a high pressure catalytic polymerization unit has been built which brings the value of the total plant make up another two octane numbers R-270

Fifty-three years ago William M. Burton was granted his A.B. degree by Adelbert College of Western Reserve University. Two weeks ago he was back in Cleveland for commencement and was given the honorary degree of Doctor of Science by Western Reserve. The degree comes to a man who has been given both the Willard Gibbs and the Perkin medals for development of the first commercial cracking process R-274

An unusually important group of standards are up for consideration this week by Committee D-2 of the American Society for Testing Materials which is meeting at Atlantic City. Four new tentative standards are to be recommended, revisions in four standards are recommended for immediate adoption and two tentative standards are proposed for adoption as standard R-277

Semi-Annual index to technical and semi-technical articles in NATIONAL PETROLEUM NEWS, January-June, 1939 ..... R-278

N.P.N. Semi-annual index to authors of refining technology articles, January-June, 1939 .. R-281

More logical methods for obtaining desired operating characteristics of refining processes have made the application of automatic control instruments increasingly successful. Uniformity of product, one of the principal objectives of automatic operation, has been the result of the achievement of greater stability or smoothness of operation. Refinery control problems are now being attacked and solved by methods which have been successful in other industries, notably in boiler feed control, turbine regulation, and electrical control R-283

Advertisers' Index R-291-55

New Patents R-276

Other Table of Contents 11

H_2S REMOVAL

GAS AND LIQUID PHASES

The use of tri-potassium phosphate for hydrogen sulfide removal has outstanding advantages in commercial application including:

1. Both gas and liquid phases.
2. Economy in operation.
3. Simplicity in design and control.
4. Inexpensive treating agent; virtually no loss experienced from processing.
5. H_2S treated at temperatures up to 200 deg. F.
6. Direct fired regeneration used when steam not available.
7. K_3PO_4 a stable salt; does not decompose through complex side reactions.

Foster Wheeler is prepared to furnish complete tri-potassium phosphate plants under the patents of the Shell Development Company.

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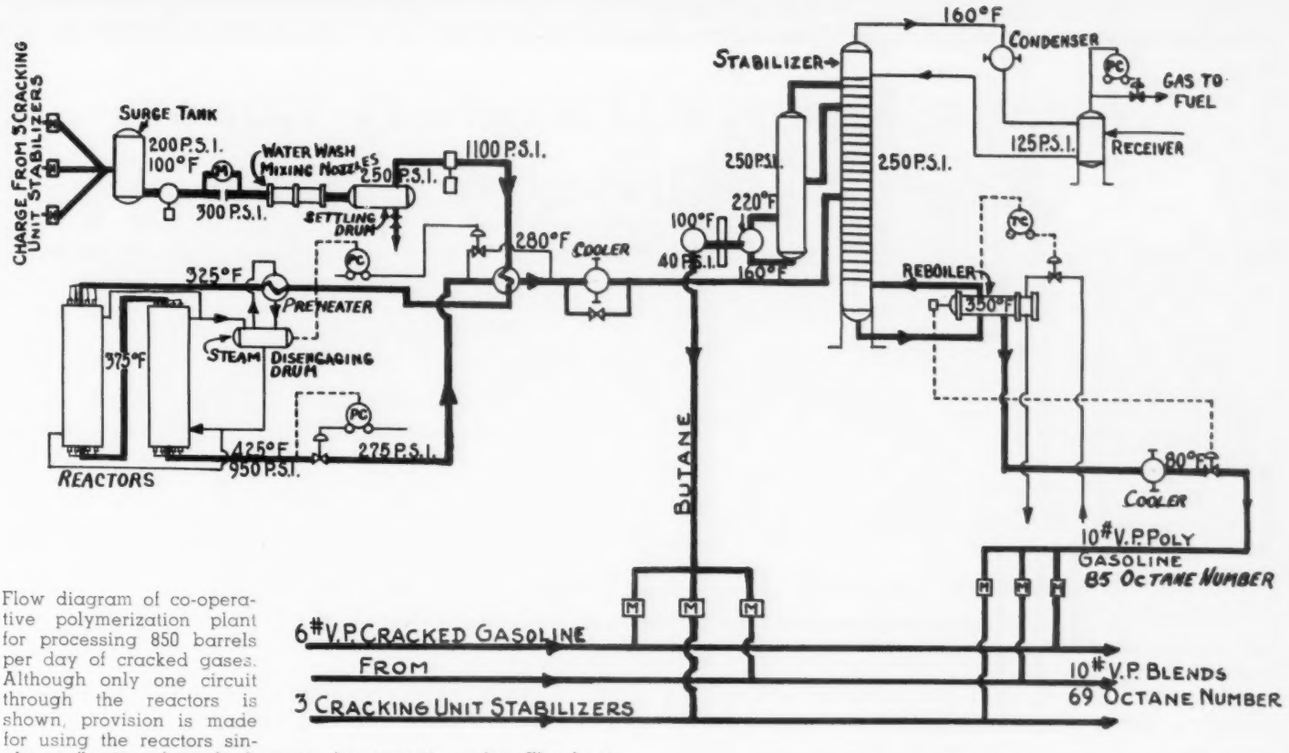

Flow diagram of co-operative polymerization plant for processing 850 barrels per day of cracked gases. Although only one circuit through the reactors is shown, provision is made for using the reactors singly or flowing through them in the opposite order. The heat of the reaction provides all heat requirements of the process. Electric motors for the compressors are only power requirements

mentioned above. Water is introduced to wash the feed stock and to absorb hydrogen sulfide and other contaminants. A thorough contacting of water and oil is provided by passing the mixture through mixing nozzles into a water settling tank. This is filled with ¾-inch tubes to break the stream of water and oil into as many small streams as possible to cause quick settling of water. The tank is covered with insulation so that the water will not freeze in winter. It is equipped with a float control to drain the water. A 25-pound pressure drop through this equipment leaves the pressure at 275 psi.

The pressure is then built up to 1100-1200 psi. by a 3-cylinder high pressure pump driven by a 40-hp. explosion-proof motor through a silent chain drive. Speed is governed by a slip-ring control giving a range of 25 to 85 r. p. m.

Passing from the pump the charge goes through a heat exchanger counter current to hot products from the reactors. Sufficient heat is absorbed to raise the temperature to 280° F. The temperature is raised still further in a steam-heated preheater. The temperature of the charge just before entering the reactors is 325° F'. Steam for this preheater is made by the heat of the polymerization reaction. Absorption of heat by the charge condenses the steam and it returns to the reactors to pick up more heat. The steam circuit is a closed system and normally requires no additions of water.

The charge then enters the reactors which consist of two series-connected sets of 16 parallel-connected tubes of 6-inch inside diameter filled with a phosphoric acid catalyst. The 32 tubes are all jacked with 8-inch tubes filled with water to transfer heat from the reactors to the steam preheater mentioned above. The catalyst beds have a range of temperature from 375° to 425°, it is estimated.

When the product comes out of the second set of reactors it has lost 150 pounds pressure and is down 950 psi. By passing through pressure control valves the pressure is dropped further to 275 psi. The products then pass through the heat exchanger previously mentioned to give up heat to the charge stock and then through a cooler so that it reaches the poly unit stabilizer at 160° F. and 250 psi. The polymer gasoline is stabilized to a 10-pound product.

The butane which has been carried along through the process unchanged is taken off in a side stripping tower packed with carbon Raschig rings. This tower has a reboiler the same as the poly plant, stabilizer. The feed inlet temperature of the side stripping tower is 200° F. and in its reboiler it is 220° F. Butane is taken off through a cooler into a receiver at 100° F. and 40-pound vapor pressure. The stabilized product goes overhead and sufficient is condensed for reflux. Uncondensed gases are flashed off to be used in maintaining the 250-psi. pressure on the stabilizer.

The reboiler of the stabilizer is maintained at 350° F. by hot oil from the cracking operation. Polymer gasoline is drained from it through a cooler lowering the temperature to 80° F. After being metered, the 10-pound product is proportioned, in the same proportion as the charge stock from the cracking plant stabilizers, into streams of the 6-pound product from these three stabilizers, and enough butane is passed into the blended streams to bring the vapor pressure of each up to the desired level of the finished gasoline.

When the first catalyst chambers were replaced the efficiency of the catalyst was computed to be 100 gallons of polymer gasoline per pound of catalyst. During some of the operation the unit was operated on only this one bank of 16 tubes. The other bank of 16 tubes now has a record of 120 gallons per pound and is still in use.

Automatic control consists of two pressure controllers in the line from the reactors. One potentiometer temperature control is used on the main re-boiler of the poly unit stabilizer. A flow control is used on reflux to the top of the tower. Flowmeters are used in feed lines to the unit and for gases from the plant.

Properties of the finished polymer gasoline were as follows on the day records were taken:

Gravity, A. P. I.	65.7
Reid V. P.	9.7
Octane No.	85
Initial b. p.	96
10%	142
30%	204
50%	230
70%	266
90%	359
End point	420
Per cent recovered	94

Co-operating with Pennzoil in operating the polymerization unit are the same companies who have co-operated for eight years in the operation of a jointly owned unit. These companies are The James B. Berry Sons' Co., Continental Refining Co., and Wolverine-Empire Refining Co.

Western Reserve University Honors Alumnus William M. Burton

"Where is your kit?"

Such was the greeting given a young chemist in 1890 when he reported to W. P. Cowan who then was in charge of building a refinery for The Standard Oil Co. at Whiting, Ind. Mr. Cowan, along with most oil men of his time, was not familiar with chemists and their equipment. Perhaps he even confused the young Doctor of Philosophy with the family doctor who was supposed to bring his tools in a little black bag.

The young man was Dr. William M. Burton who was to perfect the first commercial cracking process and thus double the yield of gasoline from a barrel of crude. He was to be honored by being awarded the two great American medals for achievement in chemistry, the Willard Gibbs Medal in 1918 and the Perkin Medal in 1922.

Two weeks ago his alma mater, Western Reserve University, gave him the honorary degree of Doctor of Science just 53 years after he received his first degree of Bachelor of Arts.

While at Cleveland to receive the degree Dr. Burton recalled a strike of the entire student body of Western Reserve while he was a freshman in 1882.

"I was a freshman then," he said. "It was the custom of the sophomores to give each fall a tempus. That was a sort of burlesque of the faculty, with hard cider and doughnuts afterward. Well, the faculty announced that the sophomores would have to cut out the tempuses. So the sophomores did, but the juniors gave the party instead.

"The next day all juniors were summoned and expelled. As the rest of the classes were in on the party, too, they decided not to let the junior take the rap, so everyone quit. At that, the faculty decided that, if the juniors would make proper apology, all would be forgiven. So they did it."

Dr. Burton was born on a farm near Cleveland and while attending Adelbert College of Western Reserve he walked seven miles to school every day. Later he spent three years at Johns Hopkins university where he was granted his Ph. D. in 1889. His first job was at the Standard Oil Refinery at Cleveland and it was from this job that he was transferred to Whiting a year later. There his first laboratory was in an old farm house left standing on the refinery grounds by Mr. Cowan's crew of builders.

OVER the next 18 years Dr. Burton advanced in executive position. In 1892 he was appointed assistant superintendent at Whiting, general superintendent in 1895. Then in 1911 he was elected a director of the company, vice-president in 1915, and president in 1918.

The correlation of the scientific forces and manufacturing operations in a large corporation are attributed largely to Dr. Burton's ability. "None but a scientifically trained man would have dreamed of such a system," said Russell Wiles, patent attorney, in an address Jan. 13, 1922 when the sixteenth award of the Perkin medal was made to Dr. Burton at a meeting of the American section of the Society of Chemical Industry in New York City.

"The system is founded on the premise that a scientifically trained man is a good man for any job; the scientific staff does not co-operate with the manufacturing staff—it has become the manufacturing staff," continued Mr. Wiles.

"The practice, so far as concerns chemists, has been to take on trained men for the laboratory force precisely as in many other plants. After brief association with the laboratory, during which the newcomer can become familiar with the peculiar problems of the works and particularly of some special department to whose problems he is assigned, he leaves the laboratory and goes into the works in some subordinate capacity.

"It then becomes his prime duty to test, on a practical scale, whatever improvements may fall within the sphere of his department. Having once become established in the works, it has been found that almost without exception the scientific men become excellent executives and their promotion is rapid.

"The result is that the manufacturing department of the company not only maintains an excellent research department, but that the whole manufacturing organization from top to bottom is largely dominated and controlled by men of scientific training. The Standard Oil Co. of Indiana is unique in this regard and the tremendous success of its manufacturing department must be very largely attributed to the superb organization which Dr. Burton conceived and has built."

AT this same dinner Dr. Charles H. Herty described Dr. Burton as being a completely normal individual. He said that although Dr. Burton has cultivated no particular hobby he has carried through life a love of experiment and an ardent zest for the lathe and mechanical tools. When a contractor offered an estimate for the installation of a radiator system in his home which Dr. Burton considered too high he took a keen delight in having the job done under his personal direction at one-fifth the contractor's estimate.

As the automobile began to come into more general use in the first decade of the century it became apparent to Dr. Burton that there was not going to be enough gasoline to take care of the demand. Internal combustion engines could be run with alcohol, benzene or toluene but these fuels cost too much and were not available in large enough quantities either.

Before the turn of the century Sir Boverton Redwood and Professor Dewar in England had patented a method of distilling Russian oil under pressure in order to increase the yield of kerosine. The invention was not developed commercially but the knowledge that oil could be broken down under pressure was a starting place for Dr. Burton and his associates in the growing research laboratories of Standard of Indiana.

In order to keep away from pressure Dr. Burton started working on vapor phase cracking. He tried superheating gases in about the way that Pintsch gas was made. But his yield was not great enough and he got cyclic and aromatic hydrocarbons which were too far ahead of their day to be valued for their anti-knock qualities highly enough to overcome the distaste for the odor of the fuel.

From vapor phase cracking Dr. Burton turned to catalysis. He tried aluminum chloride and ferric oxide. He got a good yield from anhydrous aluminum chloride but his catalyst cost too much and it was hard to recover.

So back he went to heat and pressure. His first ex-

IT PAYS TO BE *Salt Conscious*

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The Trouble

By Removing

The Cause

Although salts in crude charging stocks long have been recognized as the source of coke deposition in cracking equipment, tube stoppage, corrosion, and the impairment of refined products, it is just recently that the problem has been considered of major importance.

Widespread interest in the subject, and general acceptance of the Petreco Electromatic De-Salting Process, provide convincing evidence that refiners throughout the world are finding *it pays to be salt conscious.* Efficient salt extraction before the crude is charged to the refining system enables them to avoid endless troubles and expense.

The Petreco laboratory and engineering departments are available at all times to assist in conducting investigations, and no charge is made for this service. Inquiries relative to all phases of the subject are invited.

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perimental work was with a welded 100-gallon still with fuel oil as raw material. That didn't work because excessive coking caused a red-hot bottom that would not stand pressure.

With overhead cracking stock he began to get his first good results. He was as he reported later "highly gratified to find that his cracked gasoline belonged mostly to the paraffin series. It was easily deodorized and finished into salable products."

That wasn't the end of trouble, however. When it came to heating 6000 gallons of stock in a commercial still the fun really began. The best still that could be gotten would burst at 500 pounds pressure so the working pressure had to be kept down to about 100 pounds per square inch. Even at this low pressure the seams and rivets leaked when they would not have done so in a boiler built the same way. Boilermakers were not interested in calking the seams while the still was hot and under pressure. Some were found who would take the risk and the calking was done. But leaks persisted until oil carbonized and stopped the loss.

Dr. Burton and his associates had to devise a dephlegmating system to return condensate to the still for further cracking. A safety valve that would operate with oil vapors at high pressure had to be devised.

While all this experimental work was going on the demand for gasoline was getting more acute. So when Dr. Burton had made a considerable number of successful runs with his 8- by 20-foot still he asked Standard of Indiana directors for $1,000,000 to build sixty 8- by 30-foot stills that would charge 8000 gallons of cracking stock.

Dr. Burton found that it took a lot of argument to get the directors to give him a million dollars for his cracking installation. In those days he had to operate on a narrow safety margin. His best results in cracking were achieved at 700 to 750 degrees Fahr. and at 850 degrees Fahr. steel as then known began to lose its tensile strength. Great caution had to be exercised to prevent overheating and subsequent still failure. Despite the human element which always must intervene in such a situation Standard operated hundreds of stills for eight years before there was a fatal accident.

With the march of time tubular heaters and the improvement in metals available for equipment has enabled the refiner to go to 1000 degrees Fahr. or more and to pressures many times as great as the modest 100 pounds of Dr. Burton's first 6000-gallon still.

Gasoline production of the country was feeling the effect of Dr. Burton's invention during the war. Yield rose from 21.5 per cent in 1917 to 26.1 per cent in 1918 for example. In 1925 it was up to 35 per cent.

We are not able to segregate cracked gasoline from straight run statistically until 1925. That year the Bureau of Mines reported 66 per cent of the gasoline was straight run, 7.6 per cent natural and 26.4 per cent cracked.

Compare that with 1938 when 47.2 per cent of the gasoline produced at U. S. refineries was straight run, 0.8 per cent natural and 52 per cent cracked. Cracked gasoline totaled 270,471,000 barrels and straight run gasoline 245,418,000 barrels.

The development for which Dr. Burton was honored by his alma mater two weeks ago has been the means of giving cheap transportation, and recreation to millions who otherwise would not have had it. It has saved hundreds of millions of barrels of crude oil for future use.

The photograph of Dr. Burton published on this week's cover was supplied through the courtesy of the Cleveland *Plain Dealer*.

Foster Joins Lubri-Zol

Arch L. Foster has joined the sales engineering staff of the Lubri-Zol Sales Co., Cleveland, according to an announcement by F. Alex Nason, president. His headquarters will be at the home office of the company.

Mr. Foster has been technical editor of NATIONAL PETROLEUM NEWS for past nine years. Prior to that time he was with the U. S. Bureau of Mines at Washington and in San Francisco.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

May 30, 1939

REFINING

Method for distilling residues—Wheaton W. Kraft, New York, N. Y., and Ward J. Bloomer, Bayonne, N. J., assignors to Lummus Co. Filed Apr. 23, 1935. No. 2,160,103.

Treatment of mercaptan containing material—Harold E. Bode, Chicago, Ill., assignor to Corn Products Refining Co. Filed Aug. 16, 1937. No. 2,160,116.

Improving solvents—Per K. Frolich, Westfield, N. J., assignor to Standard-I. G. Co. Filed Jan. 31, 1936. No. 2,160,136.

Process for fractionating gaseous mixtures—Henry J. Nichols, Jr., Scotch Plains, and George L. Mateer, Roselle, N. J., assignors to Standard Oil Development Co. Filed Mar. 9, 1934. No. 2,160,163.

Heat treatment of hydrocarbon gases to dehydrogenate same—Friedrich Martin, Heinrich Tramm, Reinhard Jung, Germany. Filed June 21, 1935. No. 2,160,170.

Art of converting hydrocarbons—Vanderveer Voorhees, Hammond, Ind., assignor to Standard Oil Co. (Ind.) Filed July 10, 1934. No. 2,160,239.

Process of treating hydrocarbon oils—Harry E. Drennan, Wittenburg, Tex., assignor to Phillips Petroleum Co. Filed July 25, 1936. No. 2,160,249.

Distillation—Blair G. Aldridge and Edward G. Ragatz, Los Angeles, Calif., assignors to Union Oil Co. (Calif.) Filed July 10, 1934. No. 2,160,256.

Conversion of hydrocarbon oils into gasoline; conversion of gaseous hydrocarbons to liquid, and conversion of hydrocarbons—Filed Dec. 17, 1934, Dec. 17, 1934, and Aug. 8, 1935, respectively. Nos. 2,160,286, 2,160,287, and 2,160,288. Robert F. Ruthruff, Hammond, Ind., assignor to Standard Oil Co. (Ind.)

Process for fractionating mineral oils—Mernard S. Greensfelder, San Francisco, and Monroe E. Spaght, Long Beach, Calif., assignors to Shell Development Co. Filed Aug. 27, 1938. No. 2,160,573.

Cracking hydrocarbon oil—Sifbren Tifmstra, Berkeley, Calif., assignor to Shell Development Co. Filed Mar. 20, 1936. No. 2,160,580.

Extraction process—Willem J. D. Van Dijck, The Hague, Netherlands, assignor to Shell Development Co. Filed July 1, 1935. No. 2,160,607.

Process of treating hydrocarbons—Harold V. Atwell, White Plains, N. Y., assignor to Gasoline Products Co. Filed Jan. 23, 1934. No. 2,160,774.

MISCELLANEOUS

Recovery of acid from sludge—Webster E. Fisher, Rochester, N. Y., assignor to Eastman Kodak Co. Filed Feb. 6, 1936. No. 2,159.984.

Higher alkyl hydroxy-amines—Peter J. Gaylor, Staten Island, N. Y., assignor to Standard Oil Development Co. Filed Dec. 7, 1937. No. 2,160,138.

Adherent grease and method for manufacturing same—Arnold J. Morway, Roselle, and John C. Zimmer, Hillside, N. J., assignors to Standard Oil Development Co. Filed Mar. 14, 1935. No. 2,160,162.

Polymer composition—Raphael Rosen, Elizabeth, and Robert M. Thomas, Union, N. J., assignors to Standard Oil Development Co. Filed July 25, 1936. No. 2,160,172.

Lubricant—Clarence M. Loane and Bernard H. Schoemaker, Hammond, Ind., assignors to Standard Oil Co. (Ind.) Filed Sept. 10, 1937. No. 2,160,273.

Lubricant—Bernard H. Shoemaker and Clarence M. Loane, assignors to Standard Oil Co. (Ind.) Filed Dec. 5, 1936. No. 2,160,293.

Process for stabilizing fatty oil polymers—Egon Eichwald, Amsterdam, Netherlands, assignor to Shell Development Co. Filed Apr. 27, 1937. No. 2,160,572.

Lubricant—Oscar L. Maag, Canton, Ohio, assignor to Timken Roller Bearing Co. Filed Sept. 11, 1937. No. 2,160,577.

June 6, 1939

REFINING

Processing hydrocarbon oils—Maurice H. Arveson, Chicago, Ill., assignor to Standard Oil Co. (Ind.) Filed June 25, 1937. No. 2,160,814.

Cracking hydrocarbon oils—Lebbeus C. Kemp, Port Arthur, Tex., assignor to Texas Co. Filed Mar. 24, 1936. No. 2,160,872.

Cracking hydrocarbon oils—Wayne E. Juhn, Port Arthur, Tex., assignor to Texas Co. Filed Mar. 24, 1936. No. 2,160,875.

Process for separating wax from petrolatum—James M. Whiteley, Roselle, and Hans G. Vesterdal, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Mar. 23, 1935. No. 2,160,930.

Solvent dewaxing process—Oldrich S. Pokorny, Sarnia, Ont., Canada, assignor to Standard Oil Development Co. Filed Feb. 3, 1937. No. 2,160,985.

Selenium-containing catalyst—William A. La Lande, Jr., Upper Darby, Pa. Filed Dec. 3, 1937. No. 2,161,066.

Treating hydrocarbon oil—Richard J. Dearborn, Summit, N. J., assignor to Texas Co. Filed Aug. 24, 1932. No. 2,161,247.

Solvent regeneration of spent decolorizing adsorbent—Albert E. Miller, Westfield, N. J., and George R. Lord, Pelham Manor, N. Y., assignors to Sinclair Refining Co. Filed Jan. 4, 1938. No. 2,161,306.

Solvent regeneration of decolorizing adsorbents—Albert E. Miller, Westfield, N. J., and William B. Chenault, Wellsville, N. Y., assignors to Sinclair Refining Co. Filed Oct. 18, 1938. No. 2,161,307.

Polymerization of olefins—Donald R. Stevens, Swissvale, and William A. Gruse, Wilkinsburg, Pa., assignors to Gulf Research & Development Co. Filed Nov. 3, 1936. No. 2,161,392.

Solvent refining of oil—William P. Gee, Plainfield, N. J., and Max Neuhaus, Fishkill, N. Y., assignors to Texas Co. Filed Mar. 27, 1937. No. 2,161,567.

Dewaxing hydrocarbon oil—Howard H. Gross, Beacon, N. Y., assignor to Texas Co. Filed Feb. 19, 1938. No. 2,161,569.

Solvent refining and dewaxing hydrocarbon oil—Waldersee B. Hendrey, Beacon, N. Y., assignor to Texas Co. Filed May 1, 1937. No. 2,161,572.

Committee D-2 Recommends Four New Tentative Standards to ASTM

COMMITTEE D-2 on Petroleum Products and Lubricants of the American Society for Testing Materials was to give its annual report to the society at Atlantic City June 28. The report as prepared summarized the activities of the various subcommittees during the past year. T. A. Boyd, General Motors Corp., is chairman of the committee.

Among the changes in subcommittees and technical committees was the discontinuance of Subcommittee X on Sligh Oxidation Test and Section III on Vapor Lock of Technical Committee A. A new Section VIII on Aviation Gasoline Specifications of Technical Committee A was formed.

Subcommittee XIII on Neutralization Number and Saponification, headed by E. B. McConnell, Standard Oil Co. of Ohio, has undertaken a program to improve the Tentative Method of Test for Neutralization Number (D188-27T) as applied to used oils. Meanwhile a revision of the method has been found to yield reproducible results on used aviation oils and was presented in an appendix to the report.

The Ramsbottom method of test for carbon residue was recommended for publication as tentative by Subcommittee XXIII on Carbon Residue. This committee is headed by L. C. Beard, Jr., Socony-Vacuum Oil Co. The committee made a comparison on six oils by the Standard Conradson test and the Ramsbottom method of the British Institute of Petroleum, in which better reproducibility was obtained by the Ramsbottom method.

Section I on Gum of Technical Committee A has developed a method for gum stability that was recommended for publication as tentative. The bomb test is more generally used in the industry and this type of test has accordingly been drawn up as the proposed method although, of two tests available, this and the copper-dish test, the data obtained do not show marked advantage in favor of one or the other, according to Chairman T. H. Rogers, Standard Oil Co. (Ind.).

Section VII on Tetraethyl Lead in Gasoline of Technical Committee A has studied methods for determining tetraethyl lead in gasoline and the HCl reflux method is being recommended for publication as tentative. The committee report was prepared by Chairman Graham Edgar, Ethyl Gasoline Corp.

Recommendation of the publication of a tentative specification for aviation gasolines was made by Section VIII headed by J. B. Macauley, Jr., Chrysler Corp. These specifications originated in the Co-operative Fuel Research Committee as a result of a survey in the effort to reduce the number of specifications being used and were modified at a recent meeting of Section VIII in Washington, D. C. The recommendation was made simultaneously to Technical Committee A and Committee D-2 and met with some objection so that the report is published in the report of Committee D-2 for information only.

Minor improvements in the tentative method of test for vapor pressure were recommended by Subcommittee XII on Natural Gasoline headed by G. G. Oberfell, Phillips Petroleum Co. A revision in the tentative methods of test for kinematic viscosity was recommended to permit the use of additional forms of capillary tube viscosimeters that will give equal accuracy. J. C. Geniesse, Atlantic Refining Co., is chairman of Subcommittee V on Viscosity.

Committee D-2 recommended for immediate adoption, revisions in four standard methods of test: cloud and pour points (D97-34), distillation of natural gasoline (D216-32), sulfur by the bomb method (D129-34), and thermal value of fuel oil (D240-27). The necessary nine-tenths vote was asked in order that the modifications may be referred to the society letter ballot.

T. A. Boyd of General Motors Corp., is chairman of Committee D-2 of A.S.T.M. this year

Two tentative methods were recommended for reference to letter ballot for adoption as standard. These were the test for acid heat of gasoline (D 481-38 T) and for knock characteristics of motor fuels (D 357-38 T). Results of action on the proposed changes are not immediately available.

Committee D-3 presented a progress report covering standardization of test methods for gaseous fuels. It includes a resume of activities of the seven subcommittees on collection and on measurement of gaseous samples, on calorific value of gaseous fuels, on specific gravity and density, on determination of impurities of gaseous fuels, on water vapor content, and on analysis of gaseous fuels.

Of interest in the report of Committee A-1 on steel is the proposed tentative specification for electric resistance welded steel heat-exchanger and condenser tubes and for alloy steel boiler and superheater tubes. Tentative standards for seamless cold-drawn intermediate alloy-steel heat-exchanger and condenser tubes (A 199-37 T) and for seamless intermediate alloy-steel still tubes for refinery service (A 200-37 T) are recommended to be referred to letter ballot of the society for adoption as standard.

Signs License Agreement

Mid-Continent Petroleum Corp. has signed a license agreement with Gasoline Products Co., Inc. to cover its cracking operations. Mid-Continent operates several cracking units in its West Tulsa refinery. In connection with the patent license agreement, a survey is being made of the existing equipment by engineers of The M. W. Kellogg Co. in co-operation with Gasoline Products Co., directed at improving the operations in general and increasing the octane number on the cracked gasoline. Substantial improvements in the operations are scheduled to be effected.

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Cracking Process Selection

As new cracking processes and methods are developed and new equipment is perfected, the refiner must decide which will best suit his individual needs.

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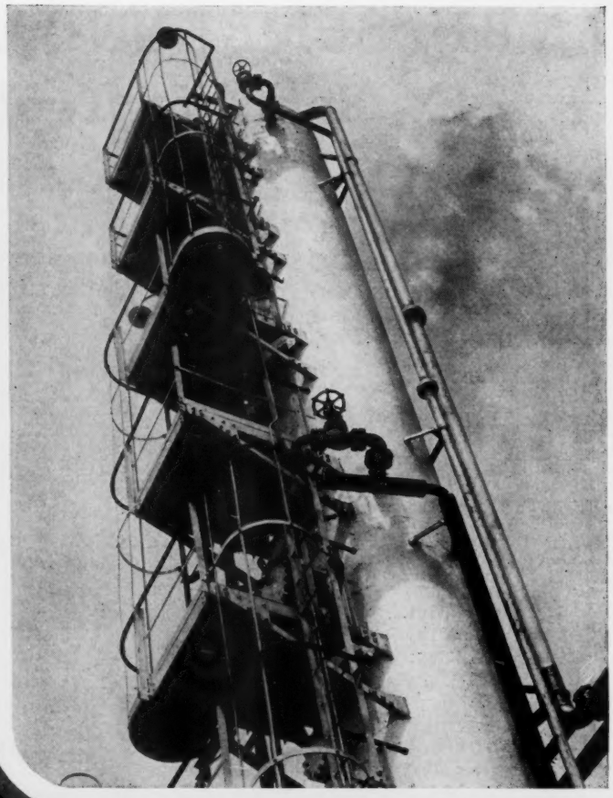

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Automatic Control Improved By Analysis of Physical Constants

By Donald J. Bergman*

Abstract

Uniformity of product, one of the leading aims in the application of automatic control to oil refining processes, has been achieved for a number of processes and is capable of more general achievement. Close studies of the physical constants in various processes and in automatic control instruments have yielded more logical methods for obtaining desired operating characteristics. These methods involve extensive use of mathematics.

Stability or smoothness of operation should be given greatest weight in deciding between alternate methods of control. Complications in the modern large cracking unit require such a coordination of operation and control that it is imperative to eliminate the possibility of hunting to avoid amplification of these variations in other parts of the system. The principal elements subjected to automatic control are temperature, pressure, flow and liquid level. Other factors to be taken into account are tendencies toward self-regulation, using extreme throttling range control judiciously, and even solving psychological problems.

*Chief Engineer, Universal Oil Products Co., Chicago.

THE strides in mechanization and production which have resulted in the present high ratio of automobiles to population in the United States have been paralleled by advances in the oil refining industry. It is only a few years since a sparkling clear straight-run gasoline with an octane rating of perhaps 45 or 50 and an Engler endpoint of 425°F. was considered to be the ideal fuel for the motor industry.

Since then, first thermal cracking and reforming, and more recently polymerization and catalytic cracking have held the spotlight as the means for producing motor fuel of the desired characteristics.

Whatever the means employed, the necessity of obtaining maximum yield and maintaining uniformity of product has resulted in the rapid development of control instruments to replace the older methods of hand control. The modern large combination topping and cracking unit has become so complex and has so many instruments indicating or recording and controlling temperature, pressure, flow and liquid level, that there would hardly be floor space in front of an instrument board for the number of operators required, if all these points had to be controlled by hand.

In the past, control instrumentation on oil refining processes has arisen out of the direct replacement of an indicator or recorder and hand control of some function, by a corresponding automatic controller. An illustration is the replacement of hand control of flow of reflux to the top of a fractionating column by an automatic temperature controller.

In this instance, the mechanism of control is changed in the transition from hand to automatic control. Under hand control the operator set a valve in the steam line to a pump, or a throttling valve in the reflux line to the tower,

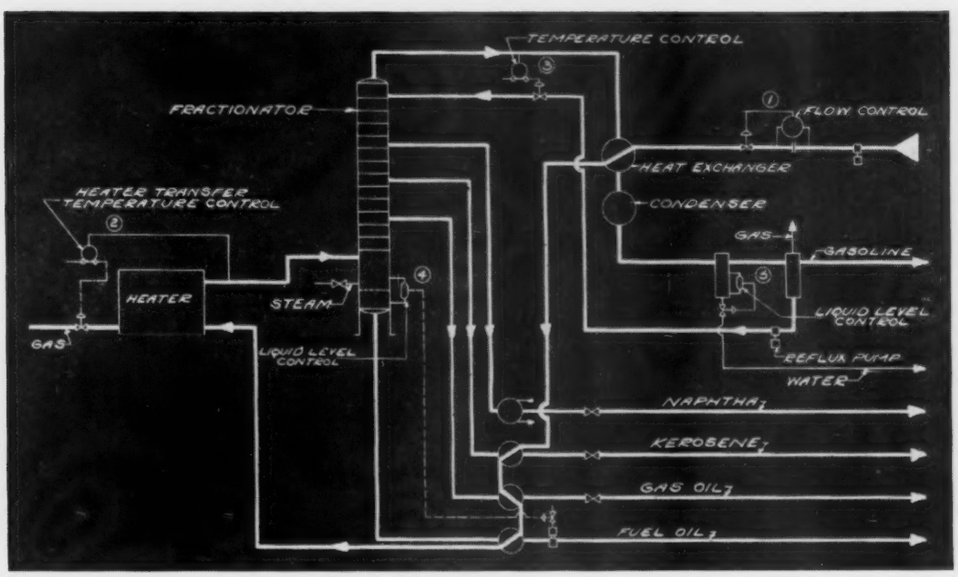

Fig. 1. Schematic flow diagram of crude topping unit

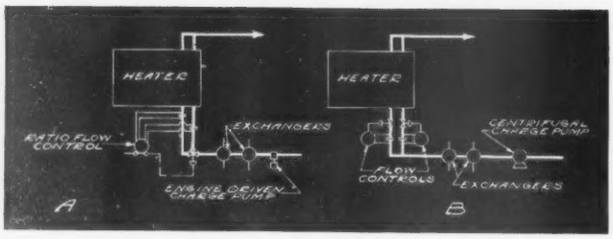

Fig. 2. Control of flow to heater

if the pump was provided with a pressure governor. Or perhaps he changed slightly the orifice in the pump speed regulator, if that was still in working order. At any rate, he made an endeavor to fix a constant flow which would hold until the temperature at the top of the column deviated far enough from the desired point to call his attention and he found it necessary to make another change.

The first automatic controllers supplied for this duty usually functioned to increase the flow of reflux when the temperature went up and decrease the flow when the temperature went down, and this they would continue to do, often very much like a heavy handed new operator who was not only too quick to make a change, but also made too much of a change each time. As a result, automatic temperature control of a tower top often resulted in a continued zigzag line between narrow or wide limits, depending upon the load on the tower, the characteristics of the instrument, size of control valve, and the provision of bypasses, air capacity tanks, etc. so that the operator could more or less approximate the original condition of uniform flow.

Within the past few years there has been a consistent effort by instrument manufacturers and engineers to arrive at a more logical method for obtaining the desired characteristics in the control instrument based upon certain physical constants in the process, and in the instrument itself.

Similar control problems have been encountered in the past in other industries, such as boiler feed control, turbine regulation, electrical controls, etc., and have been solved by a combination of empirical methods and mathematical analysis. Although the mathematics of control problems has been well recognized in the electrical industry for years, it is only recently that this viewpoint has gained ground in the oil industry. Several articles recently published on the subject should be thoroughly digested by any one having to do with control problems in the oil industry.* These articles, while highly mathematical, point out a logical method of attack on the characteristics of a process and the possible influence or interference between the self-regulation of a process and a controller operating on the process. A clearer understanding of the effects of storage capacity for volume or heat in a process can also be obtained by a careful study of the examples given in the articles.

Smooth Operation Desirable

The subject of this paper is too broad to allow of much detailed study of any single process since the ramifications of a given topping or combination topping and cracking plant, as far as affect the control problems, might easily cover much more time than allowed in such a paper. However, it is entirely practical to consider these processes in simplified form from the standpoint of establishing fundamental desirable characteristics.

One feature highly desirable in the majority of processes, and particularly in the processes covered by this paper, is stability or smoothness of operation. In the instrumentation of a plant this should be kept foremost in mind, and where alternate control methods are available for a given point greater weight should be given to the one which tends to smooth the operation as a whole. As a rule, flow control of feed is one of the major factors in obtaining process stability.

The heater is usually the most sluggish piece of equipment as far as responding to changes, therefore it is of advantage to fix its conditions and take up variations at other points. Setting a flow controller on the feed of oil fixes the furnace load. Temperature control on the heater outlet is desirable for maximum stability, because variations in the rate of firing are continued through the rest of the plant.

In the crude topping unit shown schematically in Fig. 1, constant control of feed to the unit is almost a basic factor. This should be extended further in the case of a heater with two or more parallel flows. In this case there is liable to be a continuous swing or switching of transfer temperatures of the parallel flows, caused by the variations in friction drop in the region of vapor generation. This is particularly true where the total pressure drop through the coil is small, and variations due to change of state represent a large percentage of the total drop. Fig. 2 shows typical hookups of a parallel flow heater to take care of this situation. In case A, an engine driven reciprocating pump, feeds the crude through the heat exchangers, and the split at the furnace is made by means of a ratio flow controller and a three-way valve. In case B, the charge pump is a centrifugal, and individual flow controllers are provided on each flow.

In Fig. 1 the flow control on the crude charge is indicated at (1). The next point of automatic control in the process is the heater transfer temperature controller (2). Together with the flow control to the heater this control provides a constant flow of heat as well as of material to the fractionator. Fig. 3 shows a hookup often used in connection with temperature control on a heater outlet, where the temperature controller, instead of operating on a valve in the gas to the burners, readjusts a flow controller which operates the master valve to the burners. It is of course presupposed that the gas is under uniform pressure control in either case as fluctuations in gas pressure would make it almost impossible for a controller to keep up with these variations and perform its own duty. The flow controller on the gas is of advantage in maintaining steady conditions in the heater when the operator finds it necessary to readjust individual burners, since even though one or more burners may be put out the predetermined quantity of fuel is continually fed into the firebox. Changes in specific gravity and heating value of the gas are a serious factor in control and these are partially compensated by the use of the flow controller in the gas line.

For control of the gasoline quality from the top of the tower, temperature controller (3) is provided with a valve in the line from reflux receiver to the top bubble tray. This type of installation is typical for a centrifugal reflux pump and is usually preferred for a reciprocating pump with pressure governor, although with proper controller and valve characteristics the installation may be made with a valve in the steam line to the pump. A liquid level controller (4) at the bottom of the tower controls the rate of drawoff of fuel oil to the heat exchanger. An interface liquid level controller (5) withdraws water from

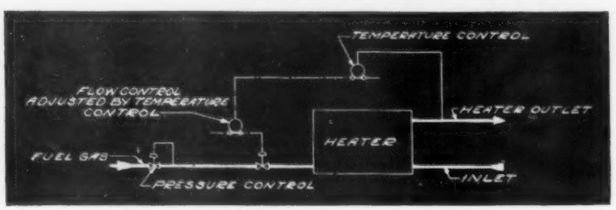

Fig. 3. Heater temperature control adjusting flow control.

*(1) Quantitative Analysis of Process Lags by C. E. Mason, American Society of Mechanical Engineers Transactions, May, 1938.

(2) Quantitative Analysis of Single Capacity Processes by Albert F. Spitzglass, American Society of Mechanical Engineers Transactions, November, 1938.

(3) Quantitative Analysis of Single Capacity Processes II by Albert F. Spitzglass. Presented at American Society of Mechanical Engineers Meeting December 7, 1938.

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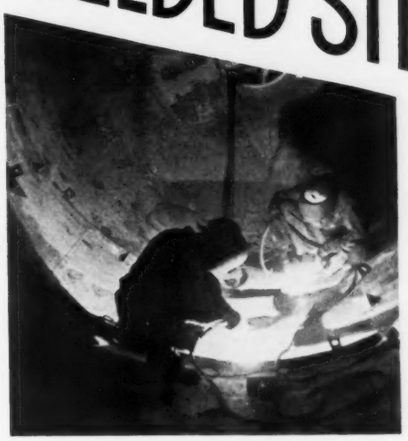

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the water separator. The various cuts of naphtha, kerosine and gas oil are shown as being under hand control.

In this system, on the basis of a constant flow of crude and a constant temperature outlet, the remainder of the controllers have a relatively simple job to perform. The top tower temperature controller is usually provided with adjustable throttling range and reset, since wandering of the control point is unsatisfactory and the off and on action which may result from a narrow band controller is frequently even more unsatisfactory.

With regard to liquid level controller (4), wandering of the control point has almost no significance. Storage volume provided in the bottom of the column can be utilized by a wide throttling range controller of the instrument type, or a ball float controller with a long arm to give a wide range of travel. In the same way with the interface level control (5), it is more important to have sufficient sensitivity to detect changes in level than to keep the level exactly constant.

Provision of controls as indicated on the above set-up will definitely improve quality of products and through inherent stability will reduce the attention required on the part of the operator to maintain satisfactory control of the plant. Considering for a moment other possibilities, a hand controlled flow from a centrifugal pump through a heater with hand firing may result in a continual variation of feed and transfer temperature with consequent see-sawing of all the remainder of the controls on the plant.

Intermediate Storage Desirable

The control system of a modern large cracking unit is even more complicated than that of a topping unit, and in many cases the two are joined together, and their control systems are so intimately related that it is imperative to eliminate the possibility of hunting. In such cases it is often desirable to set up a storage volume between the two systems, and start off the cracking unit with a newly stabilized system, rather than trust to a continuously linked automatic system which may transmit or even amplify any variations or surges. The many additions possible to a simple thermal cracking plant, such as multiple cracking coils, addition of flashing equipment, gas fractionating towers, control of side streams, stabilization, etc. can result in a system too complicated for analysis as a whole.

Fig. 4 shows a simplified Dubbs two-coil cracking unit with the minimum number of controls for satisfactory and smooth operation. In this case again the heart of the control system is fixed flow to the heaters and flow controllers (2) are provided. Control of transfer temperature is obtained by remote hand control using pressure balanced valves (10) in the gas lines to each heater. A pressure balanced valve performs the function of maintaining constant pressure in the burner header as set from the control board. With uniform flow through the heaters this method of operation is quite successful. However, temperature controllers are frequently added in order to obtain the ultimate in control, especially where there is a variation in the quality of fuel gas.

The hot oil from the heaters passes through the reaction chamber and out the bottom connection through a pressure control valve, maintaining constant pressure on the chamber. With constant flow and temperature through the heaters the duty of this controller is simplified, and since the load is practically constant a wide band proportional controller will do an excellent job. The diaphragm valve on this controller is subject to extremely severe service because of corrosion and erosion. Streamlining the inner body of the valve and the use of special alloy or stellite trim has resulted in a considerable improvement and also a reduction of the possibilities of coking.

In the bottom of the flash chamber, liquid level controller (7) releases the residuum through a cooler coil to storage. On account of the possibility of coking, this service is rather difficult and attention must be given to cutting down this possibility by introduction of cooling oil at level lines for instrument type controllers, or at the stuffing box of a float ball type. Installation of the valve part way through the residuum coil has been found to have advantages over location in the hot section of the line ahead of the cooler or in the cold section after the cooler where sticking may occur.

The top tower temperature controller (4) is indicated as operating a valve in the reflux line to the top of the tower from a pump provided with a pressure governor. The distillate receiver gas is released by pressure controller (5) and measured by flow meter (11). The distillate product is released from the receiver by liquid level controller (6). Since in practically all instances a stabilizer is added to the cracking plant for elimination of light ends and meeting specification vapor pressures, a pump provided with a pressure governor takes suction from the receiver and pumps through the liquid level control valve. The charge to the unit passes through flow meter (12) and thence through the valve of a liquid level controller installed in the base of the fractionating column. In this way the feed can be furnished to the column as necessary to maintain a fairly uniform level with a constant charge of combined feed to the two heaters.

These two liquid level controllers should both be of either wide or extreme band throttling characteristics so that flows will be disturbed an absolute minimum and fluctuations are taken up in the storage space instead of being passed on to other controls. In many cases the flow from distillate receiver to stabilizer is set by a flow

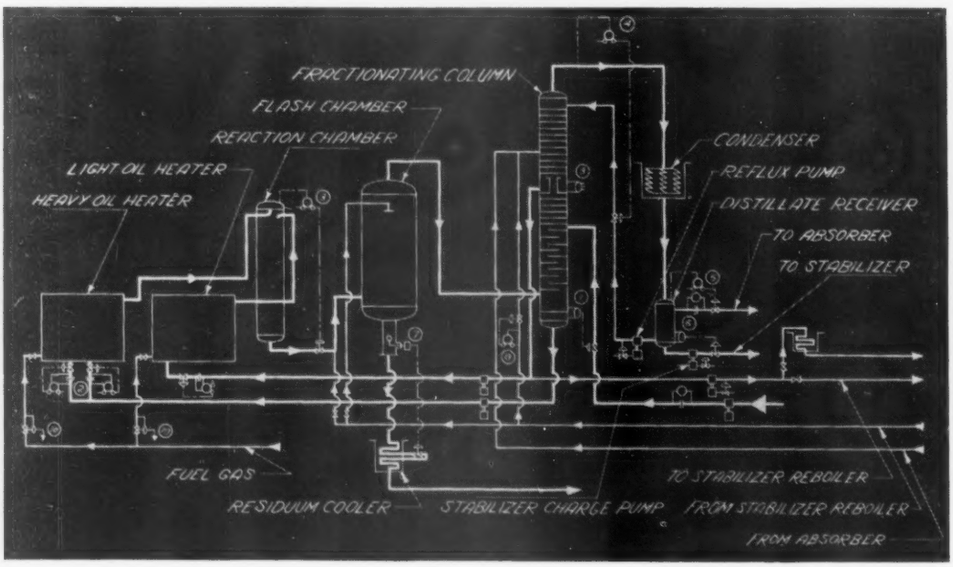

Fig. 4. Simplified flow sheet of Dubbs selective cracking unit showing controls

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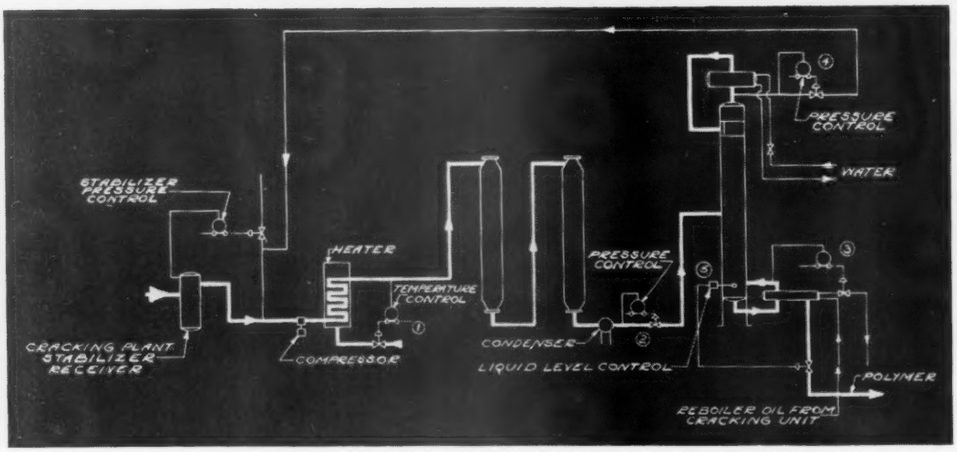

Fig. 5. U.O.P. catalytic polymerization unit flow sheet showing instrumentation

controller. In this case, sufficient storage is provided in the receiver so that the operator can watch and make adjustment as necessary, if the level tends to work up or down. A more detailed study of the control problems of a cracking plant has been covered in more detail in an earlier paper.*

Poly Unit Control

In the case of the small U.O.P. Catalytic Polymerization Unit, illustrated in Fig. 5, there were two primary requisites. These were low plant cost, and minimum attention by operators. These two requisites dictated the minimum instrumentation to give a completely automatic plant which would run without adding to the operating personnel of the cracking unit to which it was attached.

The compressor for the poly plant draws gas from the receiver of the cracking plant stabilizer, and discharges to the poly gas heater. In order to set up a stable system, the compressor is set at a constant speed by the operator. Since the production of poly feed from the stabilizer may not be uniform, a recycle of spent gas is set up by taking gas from the poly stabilizer back to the suction of the compressor with the connections made in such a way that the gas vented by the cracking plant stabilizer pressure control valve is spent poly gas. This recycle further serves to bring down the olefin content of the poly feed to the most desirable percentage.

Having set up a constant feed of gas to the poly heater, an automatic temperature controller (1) in the heater transfer regulates the amount of fuel gas to the burners from a constant pressure gas line. This results in the feed to the catalyst chambers running at constant volume and temperature, so that even though the olefin content of the gas may not be uniform on account of a varying recycle, the temperature and pressure differentials remain constant. Leaving the catalyst towers the mixture of polymer and gas passes through a condenser and cooler and thence through a pressure control (2) which maintains constant pressure on the outlet of the chambers. The mixture of gas and polymer then passes to the poly stabilizer where setting a hand valve in the water line to the condenser at the top of the tower maintains a substantially constant flow of reflux down the tower.

At the bottom of the tower a temperature controller (3) keeps constant temperature at the vapor return from the reboiler, balancing the heat requirements of the column to take account of changes in quality of feed or of reflux, and keeping a constant vapor pressure on the poly product. In this operation the cracking plant stabilizer is ordinarily operated as a debutanizer, and at a pressure somewhat below the usual stabilizer producing a specification gasoline. As a result the quantity of polymer product from a given cracking plant may be increased as much as 60 to 70% over that which would be produced if the cracking plant stabilizer were making a 10-pound Reid vapor pressure gasoline.

Under these conditions the poly plant stabilizer must save enough butane to bring the cracked gasoline back up to vapor pressure. Therefore it is acting more like a depropanizer at a pressure considerably in excess of the cracking plant stabilizer. This provides an excess pressure so the poly stabilizer pressure control (4) has sufficient differential to be workable and still can discharge into the outlet of the cracking plant stabilizer ahead of the pressure controller in order to provide the recycle. Finally, liquid level control (5) releases polymer to storage for blending with the debutanized gasoline.

The principal requirement for stability in the process is satisfied by provision at the start for a constant flow of gas at constant temperature. Stability is maintained by the use of pressure controllers with relatively wide band throttling characteristics and reset mechanism, in order to keep the control point from wandering. The same type of control is desirable for the reboiler bottom temperature and level so that even though the plant is small and might tend to be sensitive, the operation is smooth.

Avoid Hunting by Throttling

Where float-type liquid level controls are used to feed from a receiver to additional equipment, as in the case of the heater of a two-flash topping unit, or the feed to a stabilizer, they should be given maximum throttling in order to keep from setting up hunting. Sizing of control valves is especially important, as an oversize valve limits the working portion of the proportional range, and tends to make the controller sensitive, with a tendency to hunt. Where float type level controls are used, a horizontal receiver and long arm are of distinct advantage. The receiver then provides greater storage space to take up fluctuations, rather than pass them on, perhaps even accentuated. A long arm on the float ball builds up the power available for overcoming stuffing box friction and resistance of the pilot valve, and also minimizes the effect of lost motion. Even more important from the standpoint of smooth flow is the increased float travel for a given movement of pilot valve. This increases the storage volume available for taking care of fluctuations. For smoothest flow, the instrument type controller with reset has advantages and allows a smaller receiver to be used.

On and off controllers, or even narrow band controllers, have little application for level control, unless it be purely for release to storage, and even then they may cause surges. The principal objection to their use is the difficulty of predicting whether they will be applicable in a given case because of lack of a method of co-ordinating the lags and capacities of the process and the characteristics of the controller.

In any process a tendency toward self-regulation must be taken into account as it may work with or hinder the operation of automatic control equipment. A typical instance of self-regulation is the case of a centrifugal pump with a steep Q-H characteristic curve. When a controller

* "Application of Automatic Control in the Oil Industry" by D. J. Bergman. A.S.M.E. Transactions, Vol. 60, 1938, Pages 651-656.

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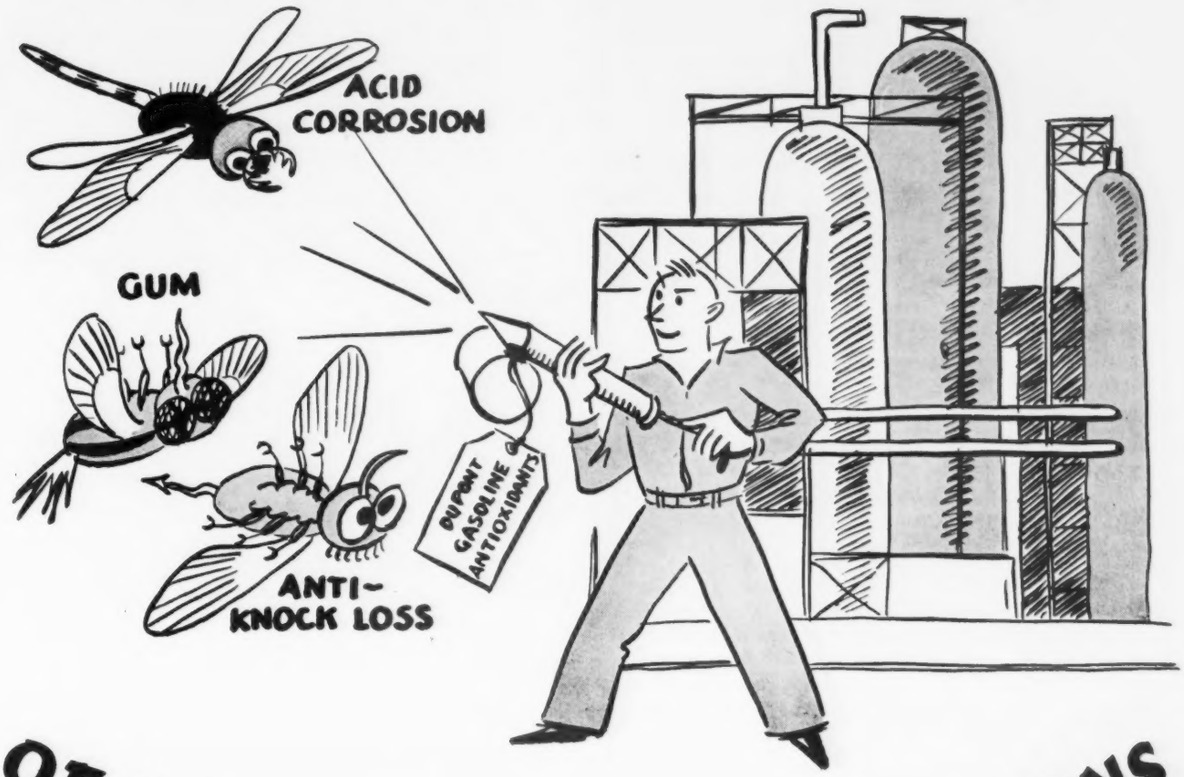

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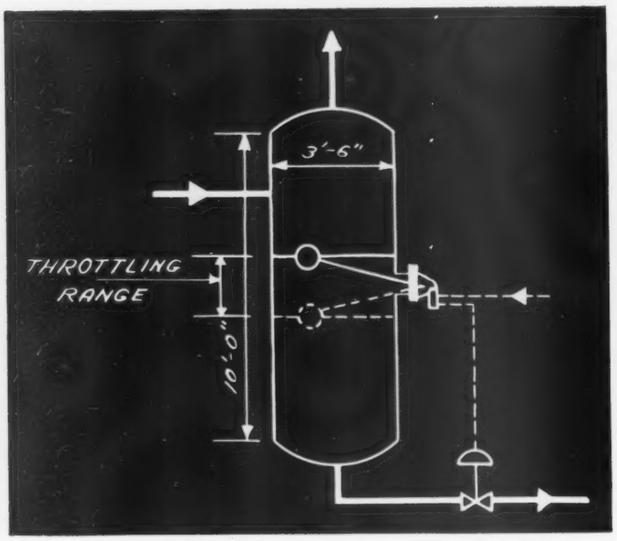

Fig. 6. Physical set-up of level controller: Proportional type liquid level controller. Area of liquid surface—10 sq. ft. Normal flow—1000 bbl. per day. Maximum flow with wide open control valve—2000 bbls. per day. Pressure in receiver—75 lb. per sq. in. Pressure in outlet line after valve—25 lb. per sq. in. Specific gravity of liquid—0.7. Controller characteristics are such that wide open pilot valve will produce full travel of control valve in two seconds

calls for an increased flow by opening a valve in the line, the resulting drop in pressure at the discharge of the pump limits the flow to a figure less than that which would result with a constant pump pressure. The controller must open the valve much wider than would be the case with a constant pump pressure in order to establish the desired new flow condition.

Another instance of self-regulation is the case of a heater with a large amount of exposed refractory surface. This provides a heat storage capacity which has a beneficial effect in absorbing and averaging slight temporary fluctuations in the flow of fuel when the feed to the heater is constant. However, if the rate of feed be increased, resulting in an increase of load, the heat storage capacity must be also increased to correspond to the higher furnace temperature at the new load, and until the refractory surface is saturated with heat at the new temperature level stable firing conditions cannot be attained. With varying flow to the heater, automatic temperature control may become unsatisfactory or even impossible.

The principal elements subjected to automatic control in topping, cracking and polymerization plants are temperature, pressure, flow and level. It might be thought that with the passage of years, these controls would become simplified and standardized to a few major items. However, this is not the case. Consider the range of equipment available for control of temperature, from the self-actuated type where the pressure generated in a vapor tension bulb acts on a sylphon bellows on the head of a control valve to open or close the valve, up to the combination of a potentiometric measuring system with a pneumatic or hydraulic relay control system. In the first case the system ordinarily has a wide throttling range (wide band proportional type), and usually is subject to considerable lag due to capacity of the bulb system, and error due to sticking of the valve stem resisting slight changes in pressure in the sylphon bellows. In the second case, a highly sensitive system for the detection of temperature can be combined with a control system of great flexibility, incorporating adjustable throttling range or proportional band, speed of reset, and anticipation.

In between these two extremes are off and on controllers, two position controllers, and relay or pilot operated types using a mercury or vapor tension bulb for detection, narrow or wide band proportional control and a host of gadgets developed by various manufacturers in the case to keep competitive. Since a similar wide range of control equipment is available for each of the other elements, pressure, flow and level, it is not to be wondered at that a considerable amount of confusion exists in the minds of engineers or instrument salesmen called upon to specify equipment for a given case.

A few years ago a prominent instrument company advertised that "60% of all control problems can be handled by on and off control." This statement was no doubt made as the result of a study of a large number of control problems brought to them for solution. However, it is probable that the number of on and off controls actually sold is a very much smaller percentage of the total, because of the fact that there is no convenient method of analysis to indicate when this type is feasible. Consequently, the instrument salesman offers and the engineer specifies a more expensive type of control with greater flexibility in order to be able to make adjustments in the field to match up with the existing process capacities, lags, etc.

Level Control Abused

Level control, although perhaps the simplest of the bove systems has been greatly abused. In an early application of a pilot operated liquid level control, approximately one-quarter inch movement of the float ball corresponded to the full travel of the control valve. This controller installed on the bottom of a four-foot diameter tower and operating a valve in the steam line to the feed pump of a cracking unit resulted in upsetting the whole operation. Although the flow of raw charge to the tower was maintained constant, the level controller was so sensitive and the lags were so great that a considerable over-travel resulted, and the level in the bottom of the tower varied six to eight inches, with the process on automatic control.

The feed pump ran at full speed for a period of two or three minutes while the level was above the narrow control range, and then shut down completely as the level crossed the range. Addition of air capacity tanks, orifice in the air line to the diaphragm valve, and limitation of control valve operation by bypass and block valves either

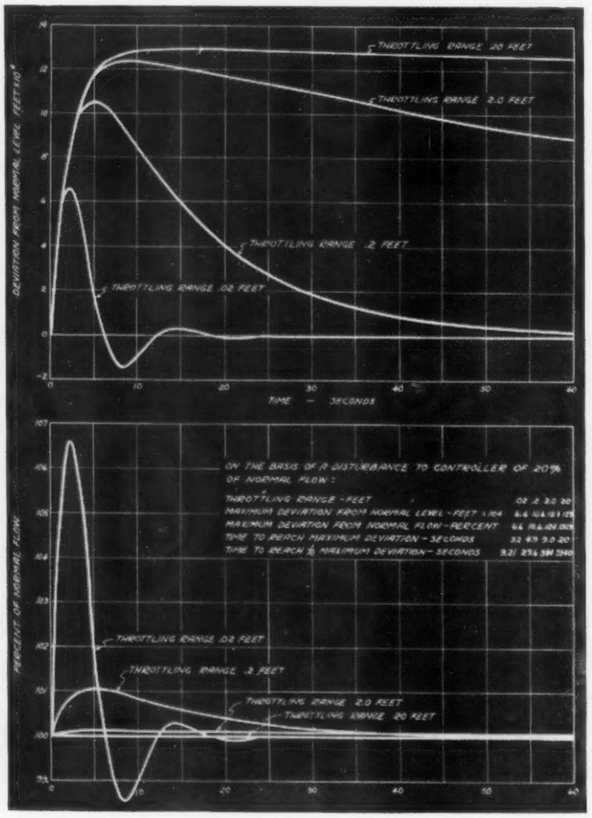
THROTTLING RANGE 20 FEET
THROTTLING RANGE 2.0 FEET
THROTTLING RANGE .2 FEET
THROTTLING RANGE .02 FEET
DEVIATION FROM NORMAL LEVEL - FEET
TIME - SECONDS
ON THE BASIS OF A DISTURBANCE TO CONTROLLER OF 20% OF NORMAL FLOW:
THROTTLING RANGE - FEET
MAXIMUM DEVIATION FROM NORMAL LEVEL - FEET
MAXIMUM DEVIATION FROM NORMAL FLOW - PERCENT
TIME TO REACH MAXIMUM DEVIATION - SECONDS
TIME TO REACH ½ MAXIMUM DEVIATION - SECONDS
PERCENT OF NORMAL FLOW
THROTTLING RANGE .02 FEET
THROTTLING RANGE .2 FEET
THROTTLING RANGE 2.0 FEET
THROTTLING RANGE 20 FEET

Fig. 7. Effect of throttling range of level control on level and flow

showed little overall improvement, or resulted in the necessity of a considerable amount of hand control to keep within an operating range. The operators quickly found that it was simpler to discard the controller entirely and make occasional small adjustments to the steam valve by hand, with a resulting smooth flow to the cracking plant.

Had it been possible to set the controller for a two foot range of level corresponding to full travel of the valve, fluctuations would have been taken up in the storage volume provided for that very purpose at the bottom of the tower, and the resulting flow would have been very much smoother and the operation satisfactory. However, such a controller was not available at that time.

A more recent application of level control involved a differential instrument type level controller installed on a stabilizer reflux accumulator, operating a valve in the water line to the condenser. Although this controller was provided with an "averaging" or extreme wide band throttling range and reset, the use of this resulted in wandering of the level recorded on the chart. Such a ragged record reflected on the ability of the operator and instrument man, and the controller was speeded up until the level recorded on the chart was practically constant. The release of gas from the accumulator became correspondingly unsteady, although the pressure controller was speedy enough to handle it without noticeable pressure variations. The excess gas was the feed to a polymerization unit, and as a result of the continued variation of feed the poly plant controls had to be set up to cope with such variations, resulting in a sensitive instead of a stable process.

This instance illustrates one of the psychological problems encountered in connection with automatic control. An improved method of handling the problem would have been the use of an indicating controller, with a flow meter in the gas release line. In practically all level control problems, the result really desired is not a constant level, but a smooth and uniform controlled flow, with any fluctuations between flow in and out taken up by variations in the level within the proportional range of the controller. In many cases, the greatest difficulty is to obtain recognition of this principle, after which the problem is easily solved.

Mathematics Applicable

Earlier in this paper mention was made of two recent articles on the mathematics of control. An interesting application of the methods indicated by Mr. Spitzglass in his second paper is the analysis of the effect on the level and flow from a typical receiver by a pilot operated liquid level controller having various degrees of proportionality.

Fig. 6 illustrates the assumed hookup together with the basic data surrounding the system on which the controller works. In taking the dimensions for the height of proportionality at 0.02, 0.2, 2.0 and 20 feet, four rather typical types of controllers are pictured. The first case is that of an extremely narrow range controller, such as the one mentioned above. The second is approximately the typical case of a kidney ball float controller which, as a rule, has less than a 6-inch float travel for full operation of the control valve. Case three applies to the internal float installed in a reservoir where a relatively long float arm can be provided. Case four covers the use of the extreme wide band proportional controller without reset.

It should be noted at this point that in practically all cases where the extreme wide band type controller is used reset should also be provided, otherwise variations in load may result in wandering of the level to a point near the limits of proportionality and any further change causes the controller to go on the steep end band, giving practically an on and off control until the process is once more brought within control limits.

The curves in Fig. 7 particularly illustrate the difference between the various controllers in providing "level control versus smooth flow".

These curves are calculated on the basis of equations given in Mr. Spitzglass' paper, assuming a standard disturbance of 20% of the normal flow through the con-

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Gasoline Products Corp. R-280
Gray Processes Corp. .....
Hanlon Buchanan, Inc. .....
Johnston & Jennings Co. R-291
Kellogg Co., M. W. R-282
Lummus Co. .....
Perco, Inc. R-287
Petroleum Rectifying Co. of Calif. R-275
Sun Shipbuilding & Dry Dock Co. .....
Texaco Development Corp. .....
Universal Oil Products Co. 27

trol valve. This amounts practically to increasing the flow into receiver for one second by an amount equal to 20% of the normal flow. The mathematical analysis then indicates the effect of this rise in level upon the control system and the variations in flow and level resulting therefrom. Since the normal flow into the vessel remains constant outside of this short disturbance, the level and flow vary from an original normal back to the same normal instead of varying along a logarithmic curve which would be the case if the flow in the vessel were changed from one normal value to a new normal value, say 20% higher. The method of analysis indicates the type of control and whether oscillations will be set up just as well with this method as when the flow-in is permanently changed, but the curves are somewhat more convenient to handle since they have a straight line as a basis rather than the logarithmic curve from one normal level and flow to a new one.

On the basis of a standard disturbance of 20% of the normal flow through the control valve, as covered above, the very narrow throttling range controller sets up a periodic motion which is damped to a value within 1% of the normal flow inside of 10 seconds. However, the maximum variation in flow amounts to 6.6% of the normal. With a throttling range of 0.2 ft. the controlled flow varies a maximum of 1%. A throttling range of 2 ft. drops the flow variation to approximately 0.1% and with a throttling range of 20 ft. the deviation is 0.01%, or practically negligible.

The disturbance in flow was taken at a sufficiently small value so as not to bring the sensitive level control system out of its throttling range. This results in the very small changes in level indicated on the curves for all four control systems. It will be noted, from the curves representing deviation of level, that the narrowest throttling range acts so fast that the variation in level is only .00066 ft. On the other hand, the controller with the 20-ft. throttling range allows a variation of approximately .0013 ft. and this level is very slowly reduced; in fact, the time required to get back to only one-tenth of the maximum deviation is nearly one hour. The reason for this can be appreciated when it is considered that with a proportional range of 20 ft. a variation of .0013 ft. results in an almost infinitesimal action of the control valve, whereas the maximum deviation in the case of the narrow throttling range controller actually requires 3.3% movement of the control valve.

In this particular problem the difference in flow between using 2-ft. or 20-ft. throttling range is negligible as far as effect on the process would be concerned. Consequently, the indications are that the extreme throttling range control is not necessary. Even if the flow variation were wider the same receiver and simple proportional control could be used to obtain greater damping of flow changes by setting the vessel horizontally. In this case, with an average area of approximately 30 sq. ft. and a float travel of 2 ft. there would be approximately 60 cu. ft. working storage capacity in the reservoir against the 20 cu. ft. capacity in the vertical receiver. The equivalent storage capacity of the extreme throttling controller in the vertical receiver is 200 cu. ft. so that it can be seen that a considerable advance in throttling range can be made by simply laying the vertical receiver on its side.

Incidentally, another characteristic in connection with the straight proportional type level controller in the horizontal cylindrical type tank is that the mid-portion of the tank has the greatest area and storage volume per inch of level variation. Consequently, in this range the controller acts slowly to change the flow. As the level is lowered to a point where the surface cross-section is reduced, the control action becomes faster because of a reduced storage capacity per inch of height.

Where large storage tanks are provided as reservoirs to obtain smooth flow and stabilize plant operation, it is desirable to use an internal type level controller with a long float arm to utilize as much reservoir capacity as possible within the proportional range of the control. It should be noted in this connection that the controllers covered are operating on a single capacity process and that the controller speed of two seconds is reasonably fast. Use of an increased control time lag or of a two-capacity system, such as might result from feeding into the reservoir over a series of bubble trays or side-to-side pans, can easily change the time relationships in the system so that such a disturbance might take the controller outside its proportional range and result in continued oscillation as in the case of the incident mentioned previously.

Valve Positioners Desirable

One item which might be emphasized at this point is the desirability of the use of valve positioners on control valves when using wide throttling ranges. Since small deviations result in very small percentages of change of air pressure to the motor diaphragm valve, the expected movement of the valve might not be obtained due to sticking for such very small changes in the force on the valve. Accordingly, the valve positioner will keep the control valve alive to the slight changes called for by the control with the wide throttling range.

With reference to the practical side of the level controls illustrated in the above case, the time required to empty the "working reservoir capacity" with no inflow and maximum outflow would be as follows:

Throttling Range, ft.	.02	.2	2	20
Seconds to Empty Working Reservoir Capacity with Maximum Outflow and no Inflow	3.1	31	310	3100

For allied level control problems the use of a storage capacity having a time relation to the maximum flow of the order of the different cases given above will give similar control conditions, always assuming that the application is on a single capacity system.

Since only a very few applications really require accurate level control, the use of such equipment where smooth flow is really the desired feature often results in setting up hunting or cycling throughout the process to which the level controller is attached. This hunting may not only affect the operation but makes the duty of other controls on the process doubly difficult and sometimes impossible. Every instrument man has had the experience of being called to look at a temperature controller which was hunting, only to find that it was doing its best to keep up with cycles set up in the process by a level controller at some point which showed no record of its action.

It is hoped that the discussion and examples given above will stimulate further consideration of instrumentation directly in connection with process engineering with a view to the possibility of making changes in process design when necessary to assist in the problem of instrumentation and, hence, assist in the control of the process itself.

Ben Franklin Refining Builds New Dubbs Cracking Unit

Ben Franklin Refining Co., affiliate of Bell Oil & Gas Co., will build a new Dubbs 2-coil cracking unit at its Ardmore, Okla. refinery. Work is to begin this month.

The new plant will consist of a two-furnace unit with a U.O.P. catalytic polymerization plant for processing cracking still gas. A copper sweetening plant also is being installed.

Dresser Engineering Co. of Tulsa, is the contractor. Universal Oil Products Co. provided preliminary engineering work and design.

Report on Oklahoma Crude

A continuation of the survey of crude oil from Oklahoma fields by the Interstate Oil Compact Commission has been made by O. C. Blade of the Bureau of Mines covering analyses of 44 crudes. The report is available as Report of Investigations R. I. 3442, U. S. Bureau of Mines, Washington, D. C.

Typical of neat, clean, efficient and inviting retail outlets operated directly by Union Oil Co. of California on the Pacific Coast, is this station at Manchester and Main in Los Angeles. Here salaried operators make hourly inspections of rest rooms, have a routine station upkeep procedure and a trained method of merchandising for strengthening the company's contact with its customers

Company Operated Stations Is Trend on Pacific Coast

The trend in service station operation is again swinging back to company operation and control in the Pacific Coast area, where the "Iowa Plan" was first tried in 1929.

During the stable-price period of the NRA oil code in 1933-35, some companies swung back to company-operated stations. After the code, various factors, including the threat of increased taxation and the rise of cut-price competition, led some companies to again try leasing out their stations.

Today, dissatisfied with lessee-operation from the standpoint of service to the public, station appearance, efficient bulk distribution of products, and other factors, some of these companies are taking back key stations for direct or controlled operation.

This article, based on a survey by Jack N. Westsmith, NPN's representative at Los Angeles, analyzes factors which are accelerating the trend to company operation and reviews the reasons for previous swings of the pendulum in West Coast station operations.

LOS ANGELES

Direct oil company management of key service stations on the Pacific Coast is on the increase as leading marketers seek standardized station appearance and operation, uniform service, good housekeeping, efficient bulk distribution and better maintenance of retail price policies.

A majority of important station sites in this area are controlled by the gasoline supplying company. They either own the stations outright or hold the original ground lease. This permits easy re-alignment of station operating policies.

Among those companies favoring direct management of certain retail outlets, control over selected locations is being exercised in one of two ways. Either the station is operated with salaried employes, or it is sub-leased on a short-term cancellation basis, with the supplying company specifying operating and merchandising procedure even down to types and color of uniform worn by operators and to selection of personnel. With this controlled dealership, the marketing company also selects and purchases all equipment used at the station.

"Experiments" is the word used to describe some recent and projected moves on the part of several California marketers to increase their control over retail outlets in the western area. These moves are paralleled elsewhere in the country as more and more recognition is given to the value of supervised operation of stations.

AT this stage in the development on the West Coast, there is little likelihood that any overnight change in policy, affecting a large number of dealers handling products of these companies, will result from the studies now being made on the question of the economics of uncontrolled versus controlled station operation.

West Coast oil marketing officials, with whom the subject has been discussed in recent weeks, were emphatic in their belief that there would always be a place for the station operator who by his personality, integrity, management and merchandising ability, demonstrates that he is qualified for retailing of petroleum products. The problem faced by most marketing companies today is finding these prere-

A highway located retail outlet of Standard Stations, Inc., marketing subsidiary of Standard Oil Co. of California, designed, equipped, and manned to form another link in the chain of direct controlled stations serving the Pacific Coast territory

quisites in the average station lessee—one that will do on his own initiative the details of management which can be required in direct or controlled station operations.

Heavy turnover in lessee personnel, with a consequent shortage of trained and experienced replacements, is cited by one large marketing company as among the reasons for it taking back key stations in metropolitan areas in the far-western territory.

Rumor would have it that this company's program calls for taking back under its direct supervision some three or four hundred stations. But the company's future action is said to depend largely upon further examination of the situation.

TO DATE, approximately 35 of this company's stations have been converted to salary operation and will serve as testing ground in this study. Locations were selected where operators could be trained and where the company could try out sales promotion ideas before putting salesmen into the field among dealer outlets. This to fill a long felt need for a place to test the efficiency of selling and operating ideas.

A bird's-eye view of service station operation in the five western states shows the following estimated concentration of retail outlets per state, exclusive of garage and new car dealers: California 14,000, Washington 4000, Oregon 2500, Arizona 910 and Nevada 235, which represents the 1935 census figures plus an estimated increase of 10 per cent, giving a total of 21,645 outlets of this type.

While the actual number of salary-operated and controlled units operated by marketing companies in these states is something of a secret, the figure is believed to be approximately one-fourth of the total, or about 5000 stations, with not less than half of this number operated with salaried employes.

It is believed a further breakdown would show that upward of one third of total gasoline sold in these five states would be through company controlled facilities, in line with recent developments which have seen impressive gallonage concentrated in strategically located stations.

West Coast marketing companies favoring the plan appear more firmly convinced than ever that effective control of their stations is necessary to give the type of service and operation demanded by the motoring public, and that the cost of such operation—everything considered—compares favorably with uncontrolled lessee operation.

Standard Oil Co. of California and Union Oil Co. are the outstanding advocates of control—either by direct or controlled lessee operation—for important, large gallonage outlets where the original ground lease is usually held by the marketing company. Both companies also are suppliers of independently operated and controlled stations.

Shell Oil Co., which divorced its company operated stations throughout the Pacific Coast territory two years ago in favor of an outright lessee arrangement, has recently taken back a few key outlets and may take over an additional group following thorough study of the problem.

Tide Water Associated Oil Co. is now operating with its own employes about 68 stations in the Los Angeles area, following a study reported to have disclosed lack of uniformity in service and station upkeep in this area. As far as could be learned, no plan is in immediate prospect for extending the direct operation to other important distributing centers—at least until success of the Los Angeles experiment is more fully determined.

Except for General Petroleum Corp., which has adopted a controlled lessee plan for approximately 600 of its retail outlets in the Pacific Coast area, other California marketers continue to use uncontrolled dealer distribution for the bulk of their sales. This would also hold true for Shell and Tide Water except for the above mentioned experiments.

Crux of the service station operating problem, as outlined by a marketing official of one large company which has salaried stations, controlled authorized distributors, and uncontrolled lessee or dealer outlets, is the question of where to draw the line between various types of operation.

It is pointed out that each individual case must be judged on its merits according to the following factors: (1) Volume of available business. (2) Character of competition. (3) Preference of local trade as to independent businessmen versus large corporations. (4) Availability of lessees who have the ability or the personal following.

Where one company has found it economically profitable to operate certain stations having a volume of around 8000 gallons a month, others favor a gallonage of not less than 10,000 to 15,000 for direct operation. The controlled lessee type of operation may be used at points where need is sent for a company-identified station but where volume or other factors do not warrant salary operation.

Most important locations for company-operated stations are along heavily traveled highways and not in strictly residential areas. The marketing head of one California company says this is because the motorist may patronize an individual dealer in his neighborhood due to any one of several reasons — including friendship, preference for independent operation, price, and other factors. But when on the highway he will usually go to the company-identified outlet where he has been educated to expect better service, cleaner rest rooms and guaranteed quality of products.

FOR several years one of the larger West Coast marketing companies had two types of controlled operation — salary and lessee—the latter with a seven-day cancellation clause which gave some semblance of control. However, this clause was not used except to see that company products were handled—no particular service, uniforms, good housekeeping, or operating methods were required.

Lack of adequate supervision of these latter details resulted in many stations identified as company units failing to give the type of service the company felt the public wanted. This led to a change in the marketing policy. Authorized dealerships were inaugurated for lessees, requiring maintenance of the same type of service and operating conditions as maintained at company stations operated directly.

This plan was perfected even to the point of passing judgment on the lessee's employes and in specifying uniforms and service. The underlying thought being to get everything that was possible with salary operation but at a lower cost—plus the fact that a man in business for himself could acquire customers not available to the large corporation and would work harder to build up his gallonage.

Shortly after this plan went into effect, it was indicated that these

Polymerization Profits

If you have a cracking plant, U O P catalytic polymerization is worth your while, whether your plant is large or small

If you want to know how profitable it is ask the refiners who are using the process

If you want to know what it will do for you—ask U O P

It will cost you nothing to find out

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

lessee operators were essentially company employes as far as social security taxation was concerned, and there was also some question that the company might be liable for workmen's compensation for these operators. There was also the prospect of wage-and-hour legislation.

This analysis led this company to give up all control over those stations which it chose to lease out, and to greatly increase the number of its salary operated outlets, until approximately one-third of its stations were converted to direct company operation. Since then the trend of this company's policy has been toward increasing this percentage, with the probability it will continue as far as large or potentially important stations are concerned.

Important among reasons why this company decided in favor of direct operation for a large number of its retail outlets was the realization that "to provide a uniformity of service on the Pacific Coast it is necessary that a rather extensive control be exerted over those stations selected to form the system. When this control is exerted and all other costs are taken into consideration, the lessee plan becomes just as expensive as salary operation".

ANY discussion of service station operating policies on the Pacific Coast should necessarily include some comment on past developments which have caused rather sudden shifts from one type of operation to another and then back again.

Company operation was initiated by some marketers in this territory in the early 1920's because it was believed there was a need for services not offered by the curb-side filling depots.

However, in subsequent years, high rentals, price wars, long dealer margins and so on, worked to make the company-operated station non-competitive and in 1929 many of these units were turned over to dealers and subsidized in some way. This, too, was not satisfactory. It was found the companies lost their identity with the public. The dealers, on the whole, were inclined to let down on service and housekeeping, and to reduce inventory and equipment purchases below profitable and efficient levels, it was found. The result was a move back toward company operation of key outlets by marketers favoring a controlled policy.

Advantages of control over retail policies was exemplified in the West Coast territory during life of the NRA oil code, when marketers in possession of their own stations were relieved from cut-price competition by re-sellers who, by reason of long margins, might have been inclined to offer substantial discounts under the canopy.

After the NRA code was invalidated in the spring of 1935, company-operated units again faced this cut-price competition. Combined with this was the threat of chain-store tax legislation, social security taxation, labor unrest and possibilities of other adverse factors. These factors led some marketers to divorce themselves again from direct operation of stations. Standard and Union, however, continued to favor direct operations control and controlled dealerships (lessees) for the most satisfactory operation of key stations.

It's no secret that one reason for marketing companies turning to lessee operation of stations in highly-competitive areas—after the oil code with its anti-discounting provisions was nullified—was the belief that the lessee would have more leeway in meeting cut-price situations.

But more recently a new factor has entered the picture, tending to stabilize retail markets. And that is the enactment of state fair trade laws which permit the supplier to protect the resale prices on his branded products. With retail prices stipulated at a level competitive with other brands of comparable quality and the courts enforcing the California law against selling below the posted price at stations, the cut-price angle in the question of controlled vs. uncontrolled operations is of less importance now.

Although the economic level at which company operation becomes profitable, may range upward from 8000 gallons a month—excluding other contributing factors—it is a poor company-operated station on the West Coast that does not pump considerably more than this gallonage.

It is a recognized fact that station operating expense does not increase in anything like direct ratio to the volume of business and that above the minimum—which will vary with the individual location—the net profit per gallon of gasoline is along a rising curve.

Directly tied into the economics of controlled station operation, is the lower distributing cost resulting from deliveries direct from the refinery or large central terminal to the stations.

Storage tanks at the company-operated outlets, built or modernized in recent years, generally have capacities of not less than 3000 gallons each, compared to 500 to 1000-gallon tanks previously used. This reduces the number of deliveries per station and minimizes losses in handling.

In the final analysis, refinery net-back must be the underlying gauge in determining type of operation, it is pointed out.

If it costs more to operate a station directly with less expense "in back" of the station, then the direct system is preferable to a lower operating cost in the case of lessee stations but where a far greater expense is incurred between the refinery and the station.

In terms of refinery net-back in lessee operation, the following estimated items must be deducted from the retail price: 4-cent dealer margin—and in usual practice of this 4 cents, 1 cent is retained for station rental; 1.5 to 2 cents for solicitation and sales expense; 1 to 1.5 cents absorption of rental in addition to the 1 cent borne by the lessee; losses for bad debts, and added costs of delivery because the marketing company cannot schedule deliveries to the same extent as is possible with direct operation.

During a recent survey of marketing conditions in the state of Washington, it was estimated that behind the four-cent dealer margin there was a total of 3.5 to 4 cents additional expense before the marketing company got back to refinery realization. This included local delivery costs and sales and office overhead, but did not include bulk freight within the state nor margins in excess of 4 cents a gallon.

It was in the direction of reducing delivery costs and of promoting company identification, that several California marketers, including some that favor uncontrolled lessees, stopped supplying split-pump accounts; giving such dealers the option of becoming 100 per cent outlets.

This point has no particular bearing on the question of whether marketers should take their stations back under direct supervision, but is indicative of current searching around for more economical means of distribution, one answer to which may be to increase control and concentrate larger gallonage in certain stations.

AN INTERESTING commentary on the increased importance of sales through company-controlled outlets is to be found in the 1938 annual report by Standard Oil Co. of California covering operations of Standard Stations, Inc.

Total sales in 1938 through this marketing subsidiary of the California Standard continued to increase, with total sales revenue for the year amounting to $41,611,932, compared with $38,991,701 in 1937, an increase of 6.7 per cent in a period when total sales of all companies in this area were slightly under the 1937 level.

Acquisition and installation of strategically located units and the modernization and improvement of existing buildings, facilities and service, in accordance with a long-range program, were declared contributing factors in this accomplishment in the company report.

The report also pointed out that—although faced with increasing costs, principally for taxes, labor, and materials—the large volume of business, together with greater operating economies, resulted in Standard Stations, Inc., being able to maintain its low cost per gallon.

The report goes on to say, that since Standard Stations is the agency through which the company finds its most extensive direct contact with the public, it has spared no reasonable expenditure or effort to maintain the highest degree of efficiency, service and public convenince in the operation of this pioneer station system.

YOU KNOW MORE THAN THE DOCTOR

...about gasoline!

Here's why it pays to tell him, and your other customers, the facts about gasoline and car performance:

THE MOST intelligent people are often "dumb" about their cars. That's why some of them buy low-grade gasoline . . . can't understand why their cars "knock" or "ping" . . . never realize that the performance and economy of a modern car depend largely on the grade of gasoline used.

What's the answer? Simply tell each customer the facts *you* know! Tell him that the best mechanic in the world can't tune-up a car to run better than the gasoline used permits. Tell him he has a choice of *three grades of performance* . . . best, good and poor . . . and that he gets just about what he pays for.

THIS MONDAY NIGHT... *Tune in* **"Tune-Up Time"** *featuring Walter O'Keefe... Andre Kostelanetz' Orchestra... Kay Thompson Rhythm Singers... Columbia Broadcasting System, 7 P. M., E. S. T.; 6 P. M., C. S. T.; 9 P. M., M. S. T.; 8 P. M., P. S. T.*

Doing this is just good insurance for you that your customer won't suddenly decide to "economize" by buying low-grade gasoline. Remember, once he starts buying on price alone, there's no telling where he'll stop. Next he'll be wanting cheaper oil, second-rate tires, etc. Isn't it worth a few minutes' conversation to keep him on the right track?

YOUR CUSTOMERS HAVE THESE 3 CHOICES

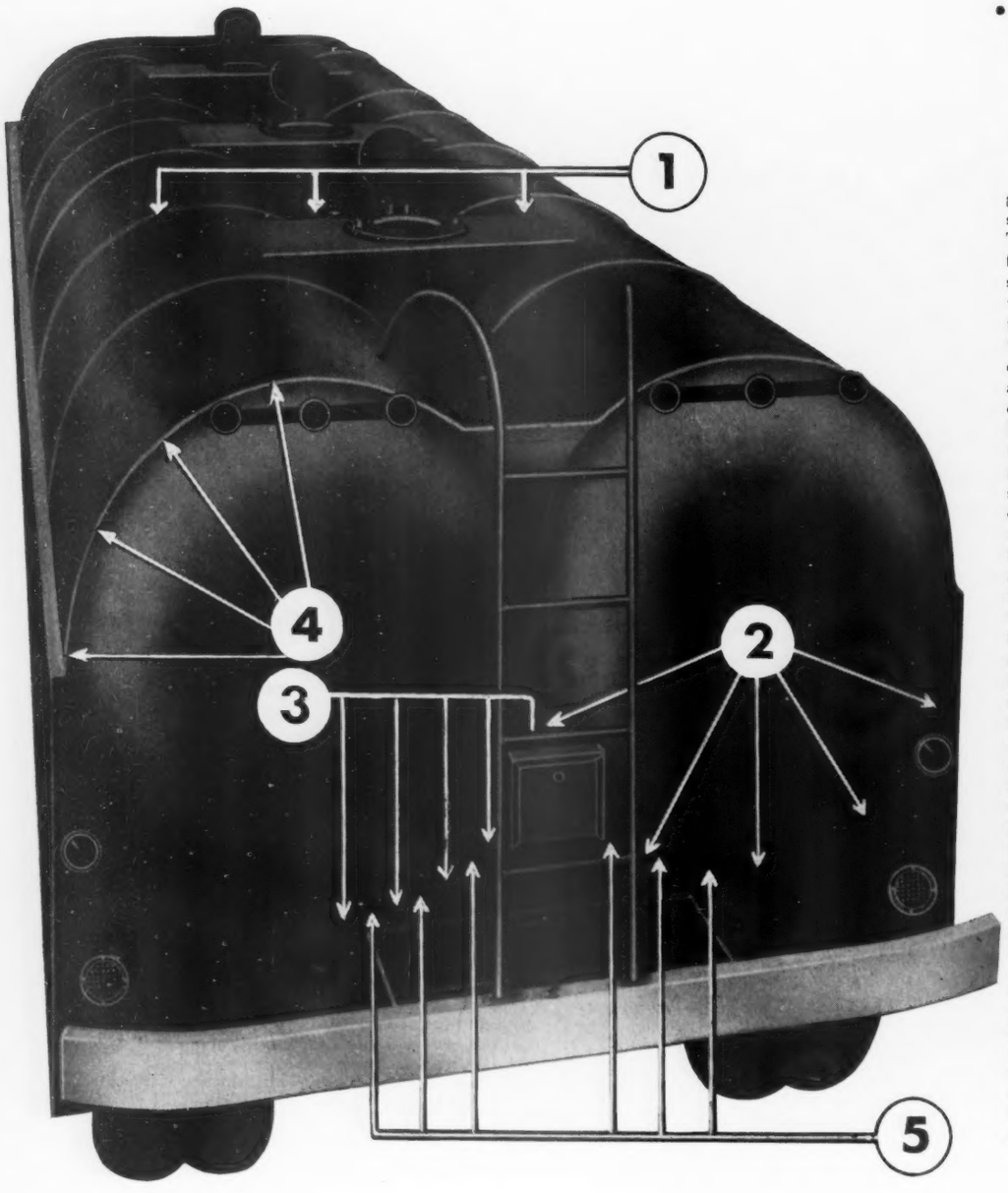
BEST PERFORMANCE—with gasoline marked "Ethyl" on the pump or globe. It is highest in anti-knock and all-round quality. Contains enough tetraethyl lead so that the engine's spark can be *advanced* closest to the point of maximum power and economy without "knock" or "ping."

GOOD PERFORMANCE—with "regular" gasoline which permits the spark to be considerably advanced without "knock" or "ping." Most "regular" gasolines now contain tetraethyl lead, as shown by the "Lead" signs on the pumps.

POOR PERFORMANCE—with low-grade gasoline, poor in anti-knock quality. With low-grade gasoline in a modern car, the engine's spark must be *retarded*—which means *loss* of power and economy.

ETHYL GASOLINE CORPORATION, *manufacturer of anti-knock fluids used by oil companies to improve gasoline*

See What Butler *Twin-Tank* High-Tensile Steel's Strength



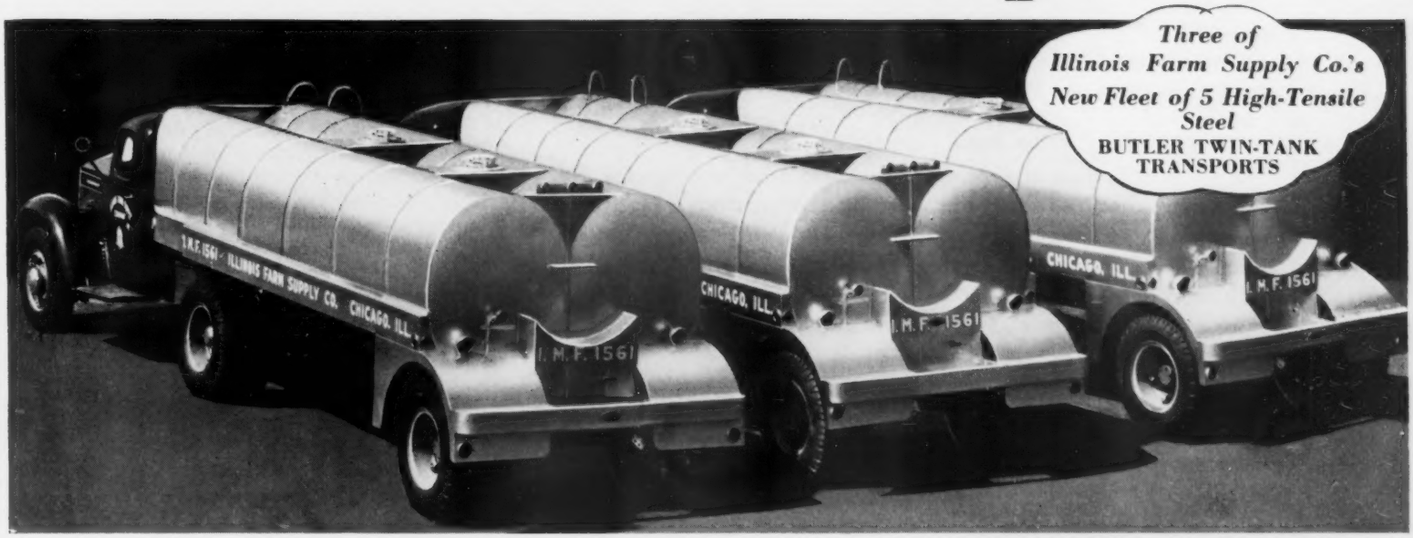
Every One Of 5 New Safety Factors ...Vital To Best Performance Of High Tensile Steel

Now liquid-haulers can get the utmost good out of high-tensile steel's weight-saving strength! For now, with Twin-Tanks, Butler adds five safety factors—five features in design that add to the strength of any steel and are extra-effective when combined with high-tensile's characteristics. (1) Two complete shells, tied together, give Twin-Tanks a beam strength of 20 to 1 over the combined weights of tank and load. (2) Two bottoms instead of one distribute the liquid load over a greater load bearing area, compared with the old-type single flat oval design. (3) Two obround shapes, each carrying half the shear stress, double the safety margin, by reducing the deflection tendency of high-tensile steel. Both (2) and (3) are of extra importance in high-tensile steel's construction because of the character of high-tensile steel's *kind* of strength. So is (4)—the fact that the short radii of two tanks, instead of the long radii of one horizontal oval, lessen load surge and lower vibration to which high tensile steel is more vulnerable than hot rolled steel. In fact, before this control of vibration was developed, through the Twin-Tanks principle, Butler engineers could not see advantage enough in the use of high-tensile steels to offset the disadvantages. With this control, however, the main disadvantage of high-tensile steel is minimized. (5) Finally, the halved load stress, distributed on two bottoms, multiplies strength 8-fold, at the very section of most common failure in common flat-oval construction.

Actually—Butler now gives you five extra strength construction features which make high-tensile steel more practical in your transports. Before you buy any transport write at once. Let a Butler engineer show you how you, too, can put weight-saving with greater safety to work for you by the use of either high tensile or the hot rolled steel.

It's worth money to you to hear it!

Design Is Doing To Help ...In Gasoline Transports!



Three of Illinois Farm Supply Co.'s New Fleet of 5 High-Tensile Steel BUTLER TWIN-TANK TRANSPORTS

HAULERS EVERYWHERE "HAVING TWINS"
Over This New Safety Advancement! . . .

Regardless of the kind of steel they want in their transports, haulers coast to coast are realizing that again Butler has jumped out ahead of the procession with a new idea for saving deadload and holding payload at the peak. Twin-Tanks carry the famous Trailow-Tank principle a step farther with even more than five safety factors illustrated here.

The five safety factors that increase the strength of any steel are only part of Twin-Tank's advantages. Twin-Tank's depressed walk-way furnishes swift carry-off for spillage, to the rear of the tank away from the hot exhaust. The diamond - treaded walk-way cuts the hazard of slips and falls for drivers. Even your tank's finish is protected from spilled gasoline which goes down the sides in ordinary flat-oval construction.

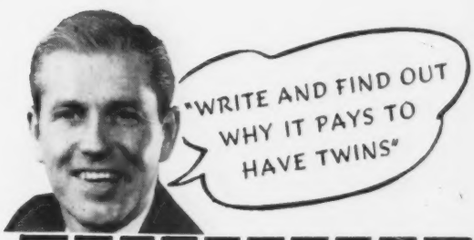
It's this *piling up* of extra safety factors and extra values that's making every hauler who is in the market for new rolling stock talk about "having twins next time". It's the reason why economy-minded haulers like Illinois Farm Supply Company (one of the largest marketers in Illinois hauling from water terminals) are buying Twin-Tanks in groups of five at a time—why many orders, calling for Twin-Tanks, are doubled and even tripled by the time the original order is filled!

BUTLER Twin-Tank SAFETY TRANSPORTS

You, too, want more safety; you, too, want top payload! Why not investigate Twin-Tanks *now* and find out what Twins have that makes shrewd buyers so eager to switch to them? Use the coupon!

BUTLER MANUFACTURING COMPANY

A typical Butler High Tensile Steel Butler Twin-Tank recently delivered to Peake Oil Company, Hubbel, Nebraska



Butler Manufacturing Company
1241 Eastern Ave., Kansas City, Mo.
941 Sixth Ave., S. E., Minneapolis, Minn.
Kindly address nearest office
We are interested in the weight-savings, peak payload and safety of the Butler Twin-Tanks Liquid Transport ..... gallons capacity. Tell us the whole story!

Name .....
Firm .....
Address .....
Town ..... State .....

5 Ways to "MAKE A LITTLE" Besides Selling Gasoline

Gasoline and motor oils need not bear the whole burden of profit-making for the independent oil marketer, says Wm. B. Britton, Montgomery, Ala., of Interstate Oil Co. And he ought to know as his company has consistently made money since he entered the oil jobbing business 18 years ago.

In the wholesaling of tires, batteries, and other accessories, Mr. Britton has worked out merchandising ideas which have paid dividends. He has developed some new angles in distributing petroleum products—kerosine, for instance. Besides these, he is wholesaling items not ordinarily carried by oil jobbers, such as rubber and cement for sale to tire repair shops for recapping and retreading.

"Making a profit in the oil marketing business for the independent jobber these days is a matter of making a little each month in several different ways and not expecting gasoline and motor oil to carry the load of operating expense and also produce the desired return."

This comment came from Wm. B. Britton, president and general manager of the Interstate Oil Co., Inc., of Montgomery, Ala., who has been running his own company since 1921 and before that was an agent for a large oil company, back when gasoline was sold in steel drums. Mr. Britton takes great pride in the fact his company has always made money and here are some of the different ways in which he "makes a little each month", in the face of today's competition for the gasoline trade:

He wholesales tires and batteries over the southern part of Alabama, except Mobile.

He wholesales national brand of premium motor oils over the same territory.

He works with his dealers on their inventories of automotive goods so that their needs for merchandise which does not move promptly can be filled direct from an automotive supply house and thus he avoids stocking such merchandise.

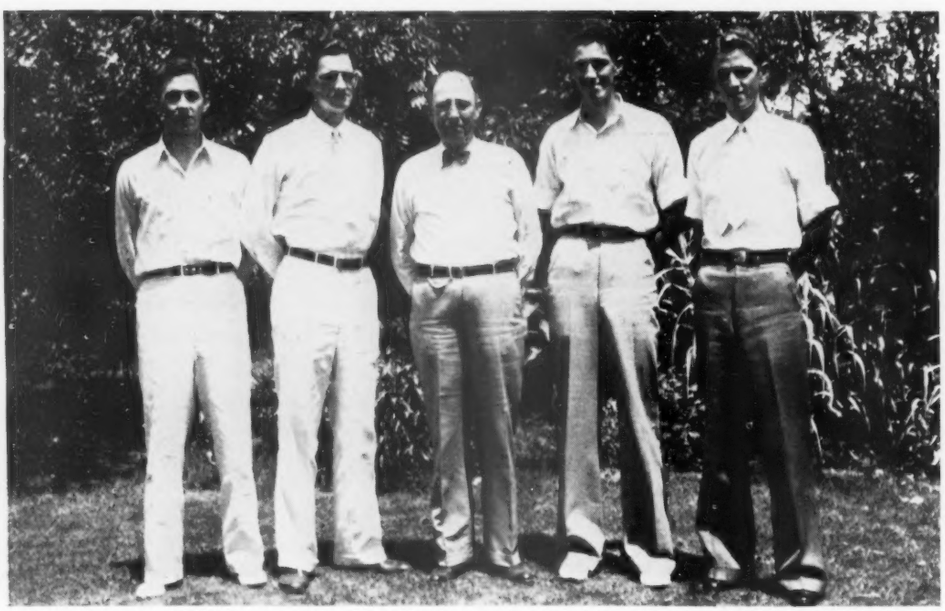
He is the exclusive distributor for certain brands of soft rubber and vulcanizing cement, materials used by garages and tire stores in recapping tires.

He went after the local kerosine trade with new merchandising ideas for the grocers and other stores which handle this oil product.

He leased and arranged for the building of a complete station, entirely under cover, in the heart of downtown Montgomery, which is proving a good outlet for his gasoline and motor oils and other products.

The Interstate Oil Co. and its owner

Five Brittons Run An Oil Jobbing Company



W. B. Britton (center) for many years ran his Interstate Oil Co., with headquarters at Montgomery, Ala., and raised four boys. Now the boys, all through college, have turned in to help with the oil company and let their father take it a bit easier. Left to right, John, William, Jr., James and Tom

"SERVICE is our middle name!"

16,000 Cities Service dealers prove it with the Ride Prover, the Power Prover, the Oil Test Plate and *all* the *extra* "KEYS TO PROFIT!"

As a Cities Service dealer, you can supply all the needs of every car owner and fleet operator in your locality. For the seal of Cities Service not only covers hundreds of quality products, but also the Ride Prover, the Power Prover, the Oil Test Plate and all the other valuable extra features that prove "SERVICE IS OUR MIDDLE NAME"!

Think of the value to you in products, accessories and service facilities which are backed by years of experience in the petroleum industry—experience which parallels the development of the industry itself! Add the help of a national radio program of immense popularity and the advice of expert merchandisers . . . the total is opportunity for you!

Today, all the money-making Cities Service products and services have been put into a "Keys to Profit" campaign. These proved merchandising methods are timed to tie-in with the biggest motoring year. They offer dealers more to work with and greater returns for their work. Find out today how your business can benefit by the "Keys to Profit" program. Get in touch with the nearest Cities Service oil company office listed below!

FOR YOUR ENJOYMENT • NEW THRILLING RADIO DRAMA every Friday evening at 8 o'clock E.D.T. Hear an exciting chapter of the "Romance of Oil." The program also stars Lucille Manners, Ross Graham, Frank Black and the Cities Service Singers and Orchestra.

CITIES SERVICE OILS AND GASOLENES

CITIES SERVICE OIL COMPANY, Chicago . . . New York . . . Cedar Rapids . . . Boston . . . St. Paul . . . Grand Forks . . . Kansas City . . . Fort Worth . . . Tulsa . . . Milwaukee . . . Cleveland . . . Detroit

CITIES SERVICE OIL COMPANY, LIMITED, Toronto, Ontario

ARKANSAS FUEL OIL COMPANY, Shreveport . . . Little Rock . . . Jackson, Miss. . . . Birmingham . . . Atlanta . . . Charlotte, N. C. . . . Nashville . . . Richmond

and proprietor the last several years have shouldered responsibilities that heads of some oil marketing companies don't have; for there were four sons in the Britton family and the oil company fed them and clothed them and put them all through college. Now three of the sons are with their father in the oil business and the fourth is attorney for the company. J. T. Upchurch, who has been with the company over 17 years, is secretary-treasurer. He is the only stockholder outside the family.

The company sells gasoline under its own brand name—"Blue Bird." All four of the sons are married, the youngest just recently. Each family has a bungalow on the same side of the same block of the same street, in an attractive residence section of this southern city. "Britton's Row", the neighborhood has affectionately named the block.

The Interstate Oil Co. has handled tires and batteries for three years. The company's experience at the start emphasized in Mr. Britton's mind the importance of the oil jobbing company studying the nature of its own individual marketing territory before taking on lines of merchandise outside of oil products.

After the company had made arangements to take on the line of tires, the representative in the territory of the tire company was called in and told to pick out the stock he thought the oil company should carry, since it was inexperienced in this merchandise. Mr. Britton says that of the stock the tire company salesman picked out, two-thirds would not sell in this particular section of the country and the oil company had to make its own study of what grades and sizes would sell and thereafter it made its own selection of what to stock.

Mr. Britton believes the handling of tires by the oil marketing company is being made easier through the simplification of group sizes which the rubber companies are working out. He said that until recently it had been necessary for the company to carry 23 group sizes of four-ply tires and 30 sizes of six-ply, in order to have a full inventory. He stated this would be simplified soon so that 9 group sizes would take care of the needs of the great proportion of passenger cars on the road and that this would make it necessary for the average dealer to carry only about $200 worth of tires at his station, as against a $300 inventory now. This will also reduce the stock of tubes it will be necessary for the oil company and its dealers to carry, and make for a quicker turnover of both tires and tubes.

James T. Upchurch, secretary and treasurer of the Interstate Oil Co., who has been with the company for over 17 years. He is the only stockholder outside the Britton family

Tires Sold to Dealers On Consignment Basis

The Interstate Oil Co. puts its tires into dealer stations on consignment and Mr. Britton believes this benefits both the oil company and the dealer. The dealer has the advantage of the use of the money he would otherwise pay for the stock and the oil company is protected against loss of the merchandise if the dealer fails in business, whereas on an open account it might not be able to recover the tires. The company looked into the matter of carrying rubber tires for tractors but decided this business would more logically fall to the farm implement supply houses.

Mr. Britton believes that the task of the oil jobbing company salesmen today is not only selling merchandise to its dealers and other accounts but also helping the retailers in their merchandising methods. To help in this latter function, the Interstate Oil Co. salesmen carry portfolios of the merchandising helps offered by the tire and the motor oil manufacturers whose lines the company handles. The salesmen go over this material with the dealers and help them pick out what they think will work in their own territories and show them how to handle it to best advantage to their own trade.

In accessories the Interstate Oil Co. carries only a limited stock of standard items that are always in demand, such as batteries, fan belts, sparkplugs, light bulbs and a few others. It has a problem in making prompt deliveries in the wide but sparsely settled territory which its salesmen cover. For the more remote part of its territory from Montgomery, the company salesmen work out with the dealers their orders and they are sent direct to a large automotive supply house in a neighboring city and the goods are sent to the dealer by truck "drop shipment". The oil company is billed by the automotive house and collects for the goods.

The tire retreading and recapping business is quite a factor in this section of the country and the Interstate Oil Co. found that it could wholesale at a profit the soft rubber and the vulcanizing cement that is used in this operation. A number of garages and tire agencies have put in the molds used in renewing tires, which cost from $1500 to $3000. The needs of the individual shop for the rubber and cement in most cases are not large enough to allow them to buy these materials in quantity, so the oil company handles the rubber in ton lots and the cement, which comes in 5-gallon pails, in large orders and it distributes the material to the agencies as they call for it.

CONSIDERATION of the needs of the grocery and general store in its retailing of kerosine, on Mr. Britton's part, led to a merchandising idea which helped develop the oil company's trade in this petroleum product to the point it now has two small trucks which handle kerosine entirely. Mr. Britton believed that the old-style, 50-gallon tank which had been supplied to stores to carry their kerosine stock was too big for the average needs and took up too much floor space. So he had some 30-gallon tanks made up particularly for this purpose and they were enthusiastically received by most of his trade. The trucks make regular routes and they do not have much difficulty in selling the necessary 10 or 15 or 20 gallons to fill the new tanks; while, with the larger tanks, the proprietor ordered only what he thought he might need until the truck came again.

Service counts for a good deal in holding the kerosine trade, this oil company has found. On call, one of its trucks will go several miles into the country to make a five-gallon delivery and, while there is no profit in this, good regular customers have been added to the company's books by this service.

The Interstate Oil Co. meters all light products out of its bulk plant at Montgomery, kerosine and solvents as well as all grades of gasoline. Before it used meters it found that the tank compartments on its trucks were under-gauged in most cases and that customers were getting small amounts of gasoline more than they paid for, which in the aggregate meant quite a loss to the company. Also the use of meters makes it unnecessary for a yard

HERE IS THE NEW TANK VENT THAT ASSURES YOU

50% to 75% Savings IN EVAPORATION LOSS

POSITIVE and unfailing protection under all conditions . . . complete freedom from repairs, adjustments and mechanical attention . . . a 50% to 75% reduction in present evaporation loss. Those are three of the basic advantages of ECONO-VENT—three reasons for a nationwide sweep to this new and better venting method.

Here's why ECONO-VENT sets a new standard of protection

ECONO-VENT's phenomenal record is based on a fundamental advance in design—the revolutionary LIQUID-SEAL principle, fully covered by patents issued and pending.

When storage tank is being filled (FIG. 1) the outflowing pressure first forces LIQUID-SEAL from the lower to the upper chamber; then, as maximum pre-determined pressure is attained, air bubbles out through the LIQUID-SEAL and escapes through outlet pipe into the atmosphere.

When storage tank is being emptied (FIG. 2) air enters the center pipe, forcing LIQUID-SEAL into lower chamber; when maximum rated vacuum is attained, the air bubbles out of the sealing-liquid and into the tank.

"Breathing" caused by fluctuations in temperature is confined entirely within the chambers of ECONO-VENT. The process of evaporation is constantly equalized by the process of condensation within the tank.

FULLY COVERED BY U. S. PATENTS ISSUED AND PENDING

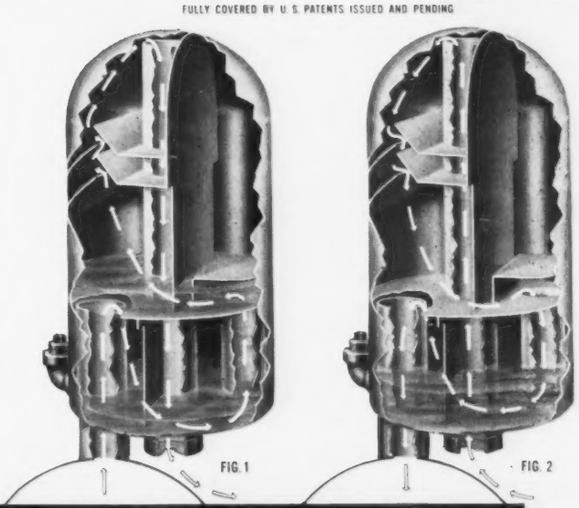


FIG. 1 FIG. 2

And here are ECONO-VENT'S 7 Basic Advantages

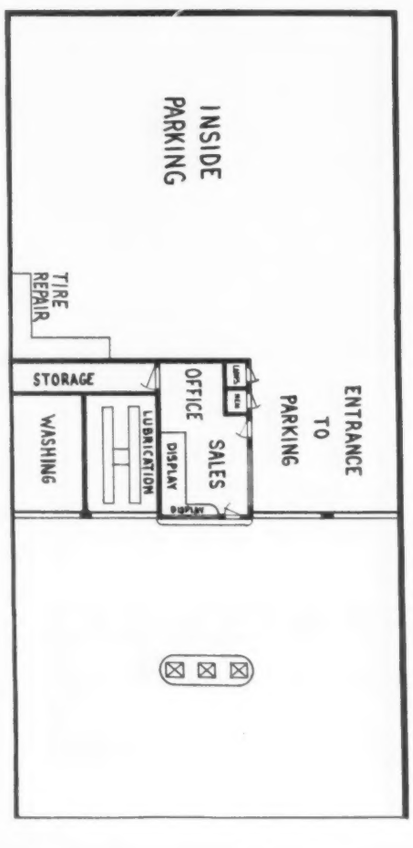
(1) **Cuts Evaporation Loss** 50% to 75% by actual test; (2) **Protects** equipment against buckling or bursting—because relief action is independent of mechanical parts which may bind, freeze or otherwise fail; (3) **Keeps Out Dust**; (4) **Keeps Out Moisture**; (5) **Minimizes Fire Hazard**; (6) **Preserves Quality** by minimizing loss of gravity; (7) **Eliminates Upkeep**—no mechanical parts; no mechanical attention required. *Write for complete information.*

LION MANUFACTURING CORPORATION
2703 Belmont Avenue • CHICAGO

SAVE WITH Econo-vent LIQUID SEAL TANK VENT

The New Type Tank Vent with the Revolutionary **LIQUID SEAL**

Photograph and ground plan of the new lessee-operated station of the Interstate Oil Co., independent jobber of Montgomery, Ala. This station, with street frontage of 77 feet, is in the middle of a downtown business block and three brick store buildings were torn down to make way for it. Aside from the driveway space, the entire station property, extending back 155 feet is roofed, steel arches eliminating pillars and inside parking space is provided for about 35 cars. Rush Stallings, the lessee, is standing by the car in the extreme right of the photograph



man to be at the loading rack when drivers are loading the trucks. This simplifies bookkeeping.

All meter readings are taken at the close of business every night and the first tank driver out in the morning records the reading before and after he has loaded, as do all other drivers. The first meter reading for any driver must be the same as the last reading for the driver just ahead of him.

The Interstate Oil Co. found that its bookkeeping and that of its customers was simplified by re-gauging its truck compartments and marking them so the compartments would show volumes in units of not less than five gallons. For example, where a truck compartment at capacity would carry 56 gallons or 127 or perhaps even a fraction of a gallon, the compartments now are filled to an even 55 gallons or 125, or 200, and are so marked. For the driver, the dealer and the oil company, it was found this procedure helped in keeping records on deliveries.

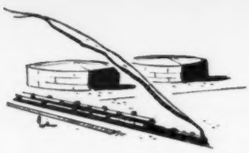
Mr. Britton worked out the design for a complete service station located in the middle of a block, instead of on a corner, which includes several unique features. An accompanying sketch shows the floor plan of this station. In the middle of the block were three old brick store buildings and these were torn down completely except for the outside walls of the two outside buildings. Except for a service area in front extending 30 feet back from the sidewalk, the entire space was roofed, single span steel arches being placed across the section of the walls which were left standing and materials from the old buildings were used for the roof. The building has 76 feet frontage and is 155 feet deep. At the front is a sales room and office. Adjoining this, is a lubritorium and a wash rack. The building provides space for parking 35 cars and there are also facilities for tire repairing and minor car repair work. The oil company leases the property and sub-leases to an agent who runs the station.

Local gasoline taxes in Montgomery and the vicinity make a great deal of extra work for the oil companies there each month in breaking down and reporting their gasoline sales. In addition to the 6-cent state tax and 1-cent county tax, on top of the federal tax, there is a 1-cent city tax and for about three miles beyond the city limits there is a 0.5-cent a gallon tax for the "police jurisdiction" as it is called. Where this applies the city tax is not collected. But the oil company has to break down its city sales to show which were made in the city proper and which just outside, to tell whether the 1-cent or 0.5-cent tax rate applies.

Although Mr. Britton has had his own oil jobbing company since 1921, his experience in oil marketing goes back many years before this when he was an agent for two oil companies in this part of the South and he has seen many changes come in the gasoline business. He likes to reminisce of the first time he was remonstrated with for overstocking on gasoline. It was in the days before there was any motor fuel demand and he had ordered 10 barrels of gasoline to be shipped to him at Montgomery.

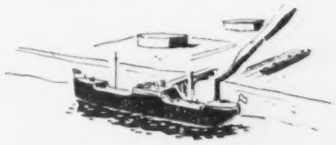
The division manager for the oil company refused to send the 10 barrels until he was told where any such large amount of gasoline could be sold in a reasonable time. Mr. Britton wrote back that Barnum & Bailey's circus was coming to Montgomery and that it had ordered six barrels of gasoline for the lights for their tents, and that he was ordering four barrels more on the chance it might rain and the circus would be held over and would need the extra supply. The story doesn't bring out whether or not it did rain and, in fact, how the extra four barrels were sold.

HIDDEN SAVINGS

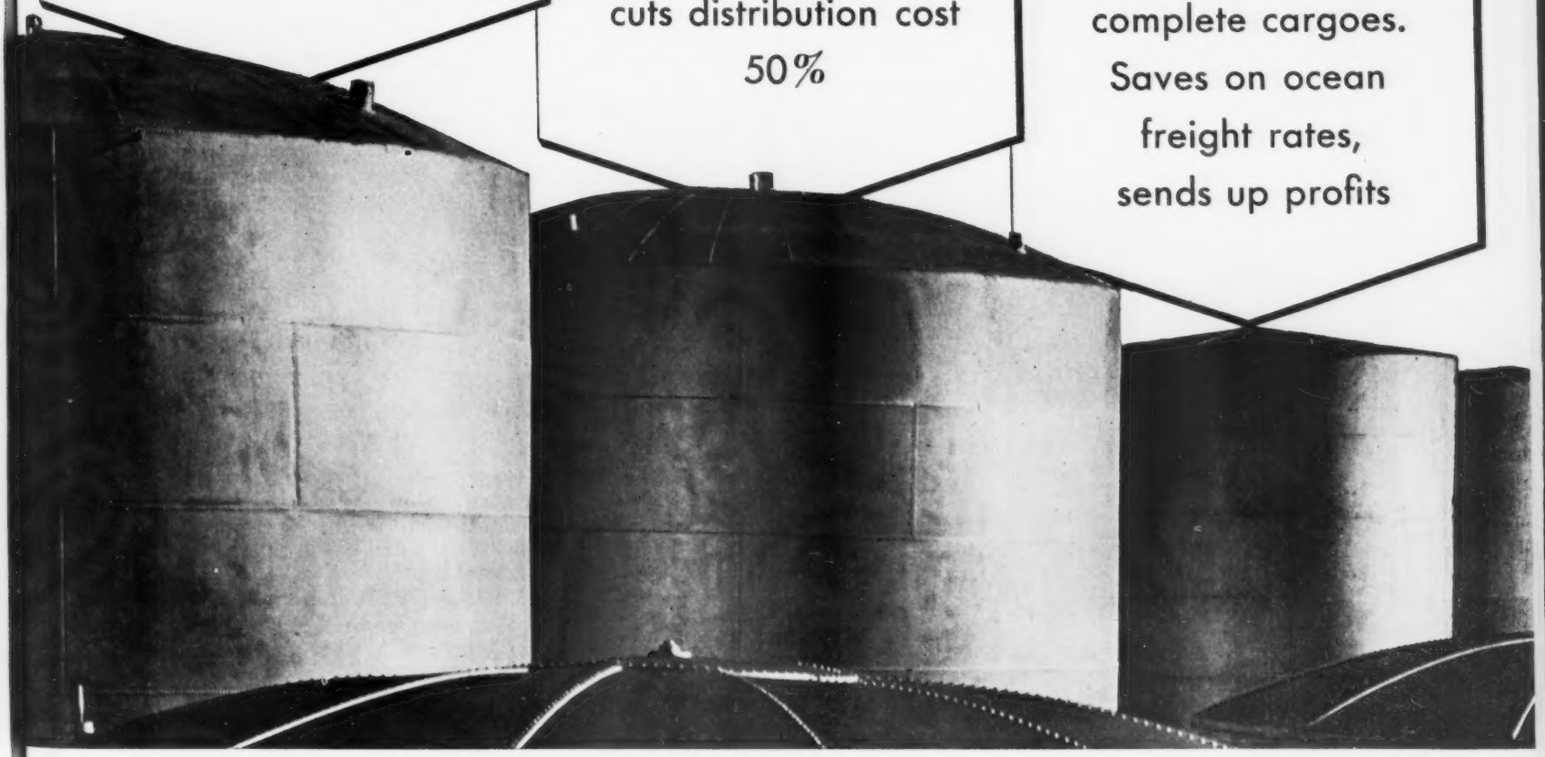


In this tank,
Export Company
maintains
permanent stocks—
no overhead,
quick shipment

Here C----Company
eliminates $100,000
capital cost,
cuts distribution cost
50%



---and here an
Importer brings
complete cargoes.
Saves on ocean
freight rates,
sends up profits



Every General American tank is more than just "a place for storage." It means scientific protection for your commodity --- safety from contamination, from fire and evaporation. It means modern economy --- cutting investment and handling costs. It is part of a great terminal system with every facility for speeding your shipments. Leading American industries use General American terminals to put them ahead of competition. We believe it will pay you to use them too.

"Strategically located to serve you"

GENERAL AMERICAN TANK STORAGE TERMINALS

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

Goodhope, La. (Port of New Orleans)
Westwego, La. (Port of New Orleans)
Carteret, N. J. (Port of New York)
Galena Park, Tex. (Port of Houston)
Corpus Christi, Texas

Illinois Oil Co-op Turns to Trucks, Linking Bulk Plants to Terminals

Top, Fred E. Herndon, president of Illinois Farm Supply Co., stands beside one of the four 4000-gallon transports this co-operative organization has just purchased to haul out of its new terminal on Illinois river, near Kingston. Mr. Herndon (above) inspects valve at terminal's 1,000,000-gallon storage tank

Illinois Farm Supply Co., one of the most progressive of the oil co-operative organizations, has recognized the growing importance of low-cost transportation in oil marketing.

This wholesale organization, which last year supplied 64 county co-operative oil companies with 100,000,000 gallons of petroleum products, has turned to trucks for transporting its supplies out of refiners' terminals in the Chicago and St. Louis areas. The co-operative has also enlarged its transport equipment hauling out of its Ohio river terminal at Shawneetown, Ill.

Now, as a fourth step in its program to make the most of low-cost water and truck transportation, Illinois Farm Supply has just completed another marine terminal on the Illinois river near Kingston, Ill., and purchased four 4000-gallon transports which are hauling out of this plant 24 hours a day to co-operative bulk plants in this area.

A marine terminal under construction on a 35 acre plot of farm land between the highway and the dike of the Illinois river at Kingston, Ill., 17 miles south of Peoria, is another advancement in the operations of the Illinois Farm Supply Co.

The plant, with 1,500,000 gallons storage capacity, went into service late in May and after construction of an office and a transport garage the company will have about $75,000 invested in its second marine terminal (its first terminal is in operation at Shawneetown, Ill., on the Ohio river.)

Illinois Farm Supply is the wholesale purchasing organization for county farmer-owned co-operative oil companies in the state. Annual report for the wholesale co-op's fiscal year ending Aug. 31, 1938, shows that in the previous 12 months its sales of petroleum products to member companies amounted to 99,660,750 gallons. There were 64 affiliated county co-ops then, serving farmers in nearly all of Illinois' 102 counties.

The Kingston terminal was constructed as a storage base for serving the county co-operative bulk plants in the fertile farm lands of north central Illinois. Objective of the Illinois Farm Supply in building this terminal was to assure flexibility so as to take advantage of any shifts in the refining centers and to provide quick, economic delivery of products from the terminal to bulk plants within the natural marketing area.

An adequate and continuing source of supply is a prime requisite of any terminal, otherwise a plant is a forelorn pile of tankage, pipelines and pumps without any throughput. The Kingston terminal has flexibility in sources of supply as its location permits receiving products from many refining centers.

The Illinois river is navigable from both ends, tapping several refining centers for water movement of products.

To the north, the Illinois river connects through canals with the river systems at the Chicago refining district.

To the south, the river enters the Mississippi river, with a refining center opposite St. Louis, and others on the lower Mississippi and around on the Texas Gulf coast.

The Kingston terminal also will have a rail connection. Favorable inland refinery markets will be available to the plant, as well as those with water transportation connections, and shipments can be received by tank car. A local railroad to build a line across

Officers of Illinois Farm Supply Co. and bulk plant agents in Kingston area, inspect new terminal as tankage is tested with water before first bargeload of gasoline arrives

"IT'S EASIER TO SELL PENNSYLVANIA"

This is one of a series of advertisements published in the interests of jobbers and dealers. Each of these advertisements will develop one of the many sales arguments for Pennsylvania Motor Oils. *Important:* These arguments are *tested*. They are sound sales points for your selling.

Your Customers will listen to this:

Emblem Pennsylvania Motor Oils Are MODERN Motor Oils

MEMBER OF PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION — Guaranteed 100% PURE PENNSYLVANIA OIL — Made from the highest grade crude oil in the world

Trick, new fangled motor oils don't prevent new motor oil troubles. You've got to look farther for the answer to modern lubricating problems.

The basic reason why emblem Pennsylvania Motor Oils are ahead of the game today is the same reason why they were ahead yesterday—and why they will be ahead tomorrow. They're made of the finest raw material available—Pennsylvania Grade Crude Oil.

Another reason why Pennsylvania Oils are modern is the fact that our Association maintains automotive engineers on the scene in Detroit and other automobile centers, watching and reporting each new development.

Further, at State College, Pennsylvania, the largest group of researchers devoted to lubricating oils in the world, works constantly to protect and improve our oils.

Repeat these facts to your customers.

Talk to one of our fieldmen or write headquarters for more reasons why emblem Pennsylvania are profitable motor oils.

82% SAY "PENNSYLVANIA!"

The question, "Which type of motor oil is best?" was put to motorists in an unbiased nation-wide poll by an independent research organization. 82% answered, "Pennsylvania."

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION • OIL CITY, PENNSYLVANIA

BETTER OILS FROM THE GROUND UP!

L. R. Marchant, general manager, left, and Morris Crandall, right, director of terminals and transportation, Illinois Farm Supply Co., inspect pressure-relief equipment atop the 1,000,000 gallon tank

the terminal property to reach mines on both sides, and the railroad is building a spur for tank car movement into the terminal. But outshipments are by truck.

Products are being delivered from the Kingston terminal to bulk plants within a radius of about 70 miles, in the company's own transports. Dispatching of transports has been systematized out to keep equipment constantly rolling, and to take advantage of the economies of large dumps at bulk plants.

Four 4000-gallon transports operate from the plant, making full dumps and rolling 24 hours a day. The bulk plants are on a keep-fill basis so transports can make full load dumps, and drivers have the key to bulk plant storage so a load can be delivered at any time, day or night. The schedules have been worked out so there are no relay points enroute. Drivers change shifts at the terminal.

The Kingston terminal has two storage tanks, one of 1,000,000 gallons the other of 500,000 gallons capacity. The larger tank has a balloon roof, the smaller tank a cone roof. The smaller tank is connected by a six inch line to the larger tank, so that the one balloon is used to prevent evaporation losses for both tanks.

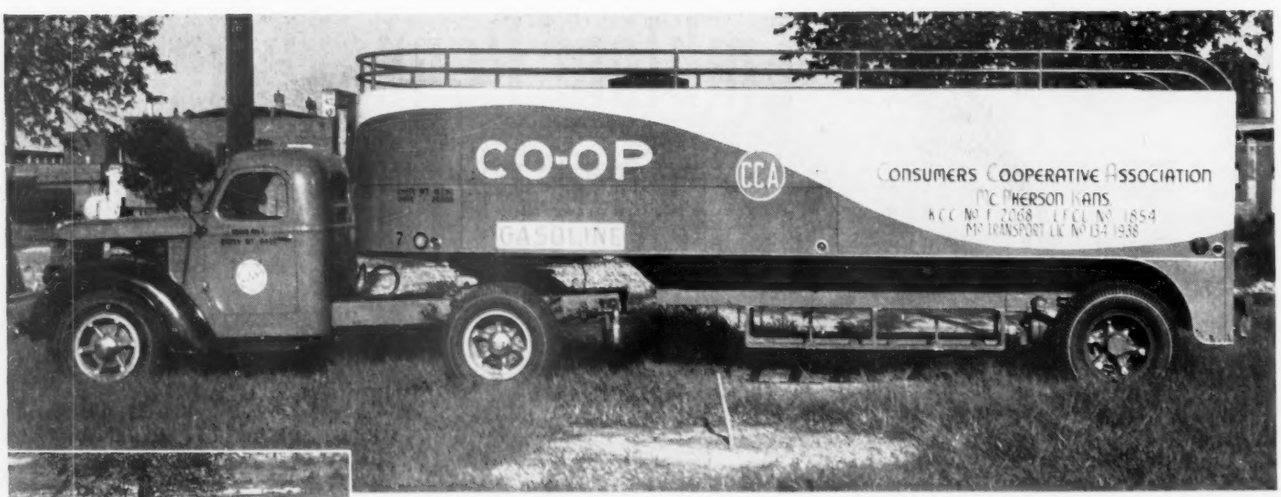
The tank yard is about 1300 feet from the river bank. On account of the volume of products in such a long pipeline and to prevent mingling of the two gasoline grades, there is a six inch welded line from each storage tank to the river. Each line has valves at the tanks, a gate valve in the line where the pipe moves over the river dike, and another gate valve on top of the dike where the line dips down to water level.

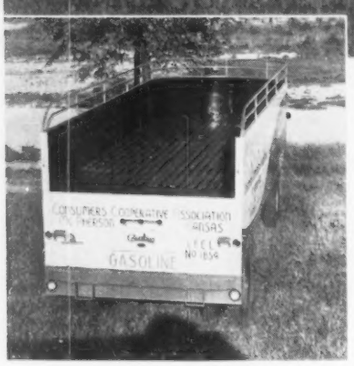
The unloading pipeline, supported by pontoons, extends out to the anchored barge used as a dock until the dike can be completed. Tanks are located 1300 feet back from river

The plant now has a temporary barge unloading unit, a four inch centrifugal pump powered by a four cylinder gasoline engine, mounted on an anchored barge out in the river. The pipelines from the river bank to the unloading barge are supported by pontoons made of steel drums.

The river dike is to be widened, and

Truck Hauls 'Gas' One Way and Packaged Goods on Return





Top, side view of semi-trailer which has tankage capacity of 2800 gallons while the rear view (above) of dual-purpose truck shows space for hauling 20,000 pounds of assorted freight on return trip, making a payload both ways

KANSAS CITY, Mo. — A dual purpose transport truck has been placed in service by the Consumers Cooperative Assn. of North Kansas City, Mo. in order to eliminate the expense of operating a gasoline transport truck half of a round trip without a payload.

The new truck will be operated between the co-operative's main warehouse and the McPherson, Kan. warehouse from which its goods are distributed to local co-operative associations throughout central and western Kansas and adjoining states.

The truck is so designed that it can carry 20,000 pounds of assorted freight, or 2800 gallons of refined oils. On the trip to McPherson the truck accordingly can carry greases, canned oils and other goods distributed by the Consumers Co-operative Ass'n. Returning from McPherson, the truck can carry oils from the McPherson plant of the Globe Oil & Refining Co., from whom the United Cooperatives, Inc., a retail distributor in North Kansas Ctiy, purchases its refined products.

The over-all length of the unit is just short of 35 feet. The body is 24 feet, 9 inches in length. The width is just under the maximum of 96 inches. Weight of tractor is 6410 pounds, and that of the trailer 10,000 pounds.

raised three feet. When this work is completed the river is to be dredged. Then the terminal will construct a permanent barge unloading spot, a dock with a 750 gallon-per-minute rotary pump powered by a six-cylinder gasoline engine.

The truck transport loading rack will have two lines from storage, through three way plug valves. Loading rack equipment will be a three inch printer type meter, and a 250 gallon per minute centrifugal pump.

Other departments of the terminal to be constructed at once are an office building, and a repair garage to service the transports.

The Kingston terminal is one of four recent changes made by Illinois Farm Supply in keeping with the increasing importance of transportation in marketing operations.

In northern Illinois 45 bulk plants have been equipped to receive products by transports operating out of Chicago district refineries.

Bulk plants in south central Illinois have been similarly equipped to be served by transports operating from gasoline pipeline and refinery sources.

Recently, a 4000-gallon semi-trailer went into service at the Shawneetown terminal, hauling gasoline. It replaced a 2700-gallon unit which had been operating an average of 22 hours each day and traveling about 400 miles daily.

A report on the Illinois Farm Supply Co. (See N.P.N., Feb. 15, 1939) by the Farm Credit Administration at Washington, which finances farmer-owned co-operatives, gave a raft of statistics on the Illinois' organization for the year 1936. For instance, the 62 county co-ops then served by Illinois Farm Supply operated 162 bulk plants, 50 retail service stations, 516 tank trucks, and served approximately 49,000 member patrons and 28,000 non-member customers. Total gallonage of all products in 1936 was 76,542,632 gallons (it has since increased substantially).

"THE BIGGEST MONEY-MAKER I'VE EVER SEEN"

GRACO MOTOR *Vitalizer*

Removes varnish, sludge—corrects sticky valves and pistons . . . Increases, pep, power, efficiency. Attracts new customers . . . Increases oil sales. Boosts service volume through increased sales of repairs, accessories and other services.

You, too, can pocket extra profits — Join the hundreds of alert Service Merchants who are cashing in on Motor Vitalizing Service.

Write for full particulars, or

Ask Your GRACO *Jobber*

GRAY CO., INC. 68 ELEVENTH AVE. N. E. MINNEAPOLIS, MINNESOTA

Manufacturers of a Complete Line of Up-to-date Lubricating Equipment

Tourist Camp Directory Out

HAVERHILL, Mass.—The 1939 edition of Cabin Trails, listing cabin camps in the eastern part of the U. S. has been issued by Ray A. Walker, publisher, Haverhill, Mass. This is the tenth anniversary edition, and seven of the 25 camps listed in the first edition are in the 1939 edition.

The Cabin Trails lists acceptable camps in the New England section, locating them on a map, with a brief description of accommodations. The edition also has listings for cabin camps in Maryland, Virginia, North and South Carolina, Georgia, and Florida.

DISTRIBUTORS WANTED — QUAKER CITY OIL

Since 1919

Low Prices . . Exceptional Quality

QUAKER CITY 100% Penna. oil sales increased 300 per cent in 1938 (there's a reason). The popularity of this brand is growing by leaps and bounds. Prices are low . . . quality is high. Exclusive territory available. Shipped in one and five quart cans, and drums.

Inquire at once

PENNSYLVANIA PETROLEUM PRODUCTS CO.

1625-27 So. Water St., *Dept. J.* Philadelphia, Pa.

QUAKER CITY OIL IS SOLD FROM COAST TO COAST

Postcards, Stamps, Pen and Ink Pull Tourists into Stations

N. P. N. News Bureau

LOS ANGELES—Natural color photographic postcards, illustrating outstanding scenic and recreational attractions on the Pacific Coast, feature plans of Union Oil Co. of California to encourage motorist travel and bring travellers into retail outlets handling the company's products in this territory.

Accepting as a fundamental sales principle the premise that one method to use in promoting travel was to illustrate points of interest in a particular area, the company began early in May to distribute the photographic postcards through company-operated and 100 per cent dealers in its marketing territory.

This idea was an outgrowth of distribution in 1938 of natural color reproduction in miniature of scenic billboards employed by the company to encourage motor travel. Widespread demand for these color prints pointed to popular approval of the postcard idea.

These cards were designed to appeal both to the tourist and to the individual who lives in the area being featured. There is no printing of any kind on the front of the postcard, but on the back is printed a full description of the subject picturized and any pertinent historical data. As a series, the cards constitute a graphic presentation of the recreational and historical spots of the Pacific Coast states.

Distribution of the cards is based on the assumption that motorists want pictures of the area through which they are passing at the moment. Consequently, only California pictures are available in California, only Arizona pictures in Arizona, and so on through Washington and Oregon.

Subjects for the first series of postcards comprise 20 outstanding views representing the five geographical divisions of the coast. That is, Arizona, Southern California, Northern California, Oregon and Washington.

There are four noteworthy scenes of each section. For example, the Arizona picture cards include views of Lake Mead, Oak Creek Canyon area, Saguro cacti, and the Balanced rocks of Chiricahua National Monument. The Golden Gate bridge, Carmel Mission, San Simeon Highway and Treasure Island (site of the San Francisco exposition) feature the northern California series.

Newspaper publicity, starting May 7th and continuing throughout the summer tourist season, shows reproductions of the colored postcards available at service stations handling Union Oil products. To help merchandise the idea at the stations, two-sheet poster boards at the more important outlets displayed a colorful poster illustrating the postcards.

Window cards emphasized to customers that the postcards were free and were available at the station. Enclosures to all regular Union Oil credit card customers said: "During May your Union Oil dealers will have natural color postcards of the West. Drop in and get yours."

Dealers and company-operated stations, where these cards were distributed, provide pen and ink, and keep a supply of stamps, so that friends and tourists can write to the home-folks from the station.

Union Oil has also initiated distribution through its retail outlets "city name" windshield transfers. Made like a decalcomania, the transfer carries the name of the local city in clean, legible blue letters superimposed over an orange 76—trade-mark of the company's standard grade gasoline. In all, more than 1200 individual orders for city names will be handled during the campaign.

These transfers are usually located on the outside of the rear window of the car, thereby keeping the windshield vision clear, as required by law in some states. Another favored installation is low down on the windshield, where the inch-high lettering and the two-inch "76" still does not obstruct vision. Strong motorist acceptance of these city-boosting transfers is reported.

dag"
CLEANS UP
H-T LUBRICATION
Ideal lubricants for equipment which operates at temperatures above the burning point of petroleum oil are prepared by dispersing "dag" in suitable fluids, volatile at these temperatures. The quick evaporation of the carrier fluids leaves a clean, dry lubricating film of pure "dag" which physically combines with the bearing surface — reducing wear, carbon and flake-off.
"Dag" colloidal graphite is non-gumming, odorless, chemically inert and non-oxidizing — it is economical and cleans up the problem of H-T lubrication for conveyors and baking ovens, in glass making and ceramic machines, for projectors, die casting and permanent mold equipment, etc.
A request on your letterhead will bring you an inspection sample and Technical Bulletin No. 130 which tells how to use "dag" Brand colloidal graphite for high temperature lubrication.
You or your oil supplier can easily add "dag" to specially selected petroleum fluids
dag
COLLOIDAL PRODUCTS
ACHESON COLLOIDS CORPORATION, PORT HURON, MICH.

Association Urges Fight By Illlinois Marketers For Tourist Trade

CHICAGO — Illinois oil marketers must fight to hold their tourist customers this summer, lest the world fairs at New York and San Francisco "entice" them out of the state, declares an article in *The Oil Can*, official publication of Illinois Petroleum Marketers Ass'n.

Text of *The Oil Can* article, follows:

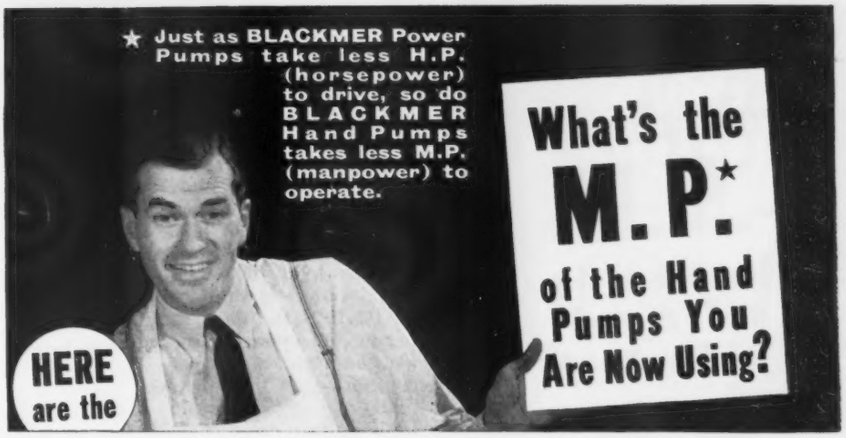
"Both New York and San Francisco are this year making a strong bid for the American public to visit their World's Fair. Whether they come via train, automobile or airplane they want the people to attend their Fair. New York and San Francisco will within the next few months gather in millions of dollars from the American trade and as well these same people enroute to New York and San Francisco, especially those traveling by automobile, will spend thousands of dollars at service stations, tourist camps, hotels, etc. Many Illinoians will vacation this year at the New York and San Francisco Fairs as well as many residents from other states who in former years perhaps came to Illinois to spend their vacation.

"With so many motorists making the trek towards the east and west coast it simply means that a certain percentage of summer business will be lost to service stations of other states located along the main highways. While it can be expected, of course, that service stations in Illinois located along the main highways leading to the east or west coast will get their share of tourist business, yet there are many local points in the state where tourist business this year will not be up to the standard of former years for the reasons mentioned above.

"How to save this business, or at least a portion of it, is something for Illinois oil men to concern themselves. There is a solution and a good one, and that is publicize Illinois as an ideal vacation state—point out to your customers and the trade from other states the historic points in Illinois, its lakes, rivers and other enticing spots to make their holiday season a real outing.

"If oil marketers of Illinois expect this year to enjoy a lucrative tourist business there is no question but what they must fight for it and not let New York and San Francisco outdo our great state in enticing the populace away from us. Boost Illinois, oil men; let the motorists know that our great state also has many inviting spots to afford them a comfortable and pleasant vacation."

Only four states now permit persons to operate automobiles without a driver's license.


★ Just as BLACKMER Power Pumps take less H.P. (horsepower) to drive, so do BLACKMER Hand Pumps takes less M.P. (manpower) to operate.
What's the M.P.★ of the Hand Pumps You Are Now Using?
HERE are the

Easiest Turning Hand Pumps in All the World

— AND WE SHOULD KNOW, FOR WE'VE TESTED ALL MAKES

Rotary Hand Pumps are a specialty with us. We make 15 different models — and we sell more of them than any other manufacturer.

In our research laboratories we are continually making comparative tests — BLACKMER Pumps against other makes — and this is what we find:

BLACKMER Hand Pumps are a decidedly SUPERIOR product because: 1. They turn much easier. 2. They give longer, better service — still in first-class shape when other pumps are worn out. 3. They give a smooth, continuous flow. 4. They require no priming.

.... Write for FREE Bulletin

And best of all, you pay no premium for these finest of hand pumps! Bulletin HP200 gives full details and prices on all BLACKMER models. Get this data — and judge for yourself!

BLACKMER PUMP COMPANY
1878 Century Ave., Grand Rapids, Mich.

GENERAL SERVICE 10 AND 20 GPM

Specially designed for pumping gas or oils from storage tanks, drums, etc. Furnished complete with 42" long (1" diam.) iron suction pipe and with iron or bronze bung. Spout threaded for attaching 1" diam. hose.

WITH DRIP PAN

Same as pump shown above except for these additions: Spout shut-off valve which eliminates drippage, and drip pan equipped with screen. Overflow is screened and drains back into pump.

COMPLETE WITH DISCHARGE HOSE AND NOZZLE →

Furnished in both 10 and 20 GPM sizes. Each complete unit includes: Pump, suction pipe, bung, and 8' of ¾" diam. BLACKMER gasoline and oil hose fitted with bronze nozzle.

VISCOUS LIQUIDS

For pumping heavy greases. Furnished with 42" long (1¼" diam.) suction pipe and iron or bronze bung. Capacity 12 GPM.

BLACKMER ROTARY PUMPS
AUTOMATIC TAKE-UP FOR WEAR
EXCLUSIVE BUCKET DESIGN

The "OVERHEAD DOOR"
"Trade Mark"
THE DOOR WITH THE
MIRACLE WEDGE
closes tightly—YET—opens easily
for
LUBRITORIUM—BULK PLANTS—WAREHOUSE—HOME GARAGE
Backed by
A NATION-WIDE SALES INSTALLATION SERVICE
Write for particulars
OVERHEAD DOOR CORPORATION
Hartford City, Indiana, U. S. A.

The Accepted Standards of Pennsylvania Bright Stock Excellence Since 1900

•

ASTM POUR POINT
10 15 20 25

ASTM CONRADSON CARBON
.8 1.0 1.2 1.5

ASTM COLOR
3½ 4 5 6

•

Manufactured Solely by

THE CONEWANGO REFINING CO.

Warren, Pennsylvania, U. S. A.

Refiners and Tractor Makers Differ on Fuel Specifications

By Staff Writer

ST. PAUL, June 24.—The minimum octane of 30 in the proposed specification for a standard tractor distillate is considered too high by some Mid-Continent and Eastern refiners and too low by some tractor manufacturers, it was announced in the report of Prof. E. L. Barger, associate professor of agricultural engineering at Kansas state college, chairman of the committee on tractor fuels, at the annual meeting the past week in St. Paul of the American Society of Agricultural Engineers.

The report was based on comments received by the committee from individual companies in the petroleum and tractor industries since the proposed tractor distillate specification was issued last fall by the Society's committee, seeking a uniform fuel for distillate burning tractors.

Further progress of the proposed specification has not been mapped out yet. The ultimate course is for the committee's final report to be sent to the Society's committee on specifications, then for publication as a recommended specification that can be used by the petroleum and tractor industries in providing tractor owners with a standard fuel.

Professor Barger stated that 15 to 20 per cent of the fuel used in Kansas is of tractor distillate classification.

The petroleum industry has made the following comments on the octane specification to the committee Professor Barger reported:

"Perfectly sound" commented one West Coast refiner, while another deemed it "not at all unreasonable."

An eastern oil company commented that it was as a "limited specification, entirely satisfactory." Another eastern company held the octane specification to be "the most serious problem," questioning the production of 30 octane fuel in the distillate range. Another eastern company suggested a minimum 30 octane is of "questionable value."

A Mid-Continent refiner deemed this specification not essential or desirable, referring to the increased cost of refining. Another Mid-Continent refiner commented that the minimum was "too high," that a good grade of tractor distillate under 30 octane could be refined from Mid-Continent crude, and that the rise in manufacturing cost would "unduly penalize the farmer."

Of comments received from five engine and tractor manufacturers, three held a minimum 30 octane specification was too low. One manufacturer said that, if there is to be only one grade of tractor distillate, the minimum should be 35 octane. Another preferred a 35 minimum, and the third said the minimum should be better than 30.

On the distillation specification three refiners were in agreement in supporting the proposal. One West Coast refiner commented that the specification was too close to No. 1 fuel oil.

The following general comments were received by the committee, Professer Barger reported:

A tractor manufacturer said that standardization of a low grade fuel would not be very successful, and that the price would rise for a present low cost by-product. Another manufacturer suggested that a standardized fuel would result in higher costs to consumers.

A Canadian refiner commented that there would be no difficulty in meeting the specification, but pointed out that another petroleum product would mean additional distribution costs.

A Mid-Continent refiner commented that most oil companies would "heartily approve" uniform specifications, and suggested that sulfur and gum were important enough to be added to the specification.

An eastern refiner said that tractor manufacturers were divided on a specification and suggested that efforts be directed towards uniform state laws.

Another eastern refiner said that the proposal was not a specification but a classification of a tractor fuel, and that the proposed specification was not all inclusive, hence a fuel might meet the specification yet not be a suitable product.

The Society's committee on tractor fuel was appointed April 12, 1938, and reported the proposed specification at the meeting last fall of the power and machinery division. The committee canvassed tractor manufacturers and contacted refiners in the Mid-Continent on specifications, and studied requirements in state motor fuel laws.

Members of the committee are Professor Barger, chairman; C. E. Frudden, Milwaukee, chief engineer, tractor division, Allis-Chalmers Mfg. Co.; C. N. Hinkle, Chicago, agricultural engineer, Standard Oil Co. of Indiana; C. L. Zink, Lincoln, in charge of testing, Nebraska Tests, the University of Nebraska; and J. F. Goss, Peoria, Caterpillar Tractor Co.

The specifications were proposed to provide a basis for co-operation on the subject with other technical societies, and for discussion among the Society's members.

Alcohol as a motor fuel was discussed by P. Burke Jacobs, Washington, senior chemist, U. S. Bureau of Chemistry and Soils, and by Dr. Harry Miller, formerly assistant director of research, Chemical Foundation of Kansas Co.

A clearer understanding of methods and aims should be arrived at before starting on a program of motor fuels from farm products Mr. Jacobs told the meeting.

So far the financing of the power

Here's the Standardized Fuel for Tractors Proposed at St. Paul

ST. PAUL, June 24.—Specifications for No. 1 tractor distillate proposed by Society of Agricultural Engineers, which was considered at its meeting here this week, follow:

Octane, 30 minimum; distillation, 5 per cent distilled at not less than 325 degrees Fahr.; 10 per cent distilled at not higher than 400 degrees Fahr.; 25 per cent at not higher than 420 degrees Fahr.; 95 per cent distilled at not lower than 464 degrees Fahr., nor higher than 515 degrees Fahr. End point not higher than 540 degrees Fahr.

alcohol program has been by public or semi-public funds, Mr. Jacobs said, adding that this financing method should be continued. Much research should be done to reduce costs, Mr. Jacobs continued.

The experimental plant of the government at Peoria will have a complete pilot plant, he announced, for a study of all the possible raw materials for producing power alcohol.

Dr. Miller discussed the production of power alcohol from corn and grain sorghum. On distillation equipment he stated that research has not been extensive as it should be, and designers have not varied much from standard practice. Dr. Miller said he hopes some research agency will make a thorough study of the subject.

U. S. Industries Spend Billion Dollars for Fuels

WASHINGTON, June 17.—The fuel bill for manufacturing establishments in the United States during 1937 was $957,195,578, an increase of 35.2 per cent over $708,110,963 in 1935, according to a report of the Census Bureau of the Commerce Department.

Included in the nation's industrial fuel bill for 1937 were 136,255,044 barrels of fuel oil; 6,561,820 short tons of anthracite and 162,960,976 short tons of bituminous coal; 42,194,064 short tons of coke and 2,825,973,829 thousand cubic feet of natural and manufactured gas, the statistics show.

The iron and steel industry had the largest fuel bill, amounting to $376,567,855, which included 32,971,006 barrels of fuel oil.

Gasoline Pump Shipments Up

WASHINGTON, June 19.—American manufacturers shipped gasoline pumps valued at $2,002,051 in April, Census Bureau reports, as compared with $1,845,325 in March and $2,151,702 in April 1938. Oil and grease equipment and other pumps shipped in April were valued at $258,244, while shipments in same month last year were worth $211,999.

Make Weather Your Salesman Jobbers and Dealers Told

CLEVELAND, June 26.—Put the weather on your station sales force, was the theme of the spring and summer sales promotion campaign of the American Oil Co., which closed last week with conventions for its dealers in Cleveland and Akron and Canton. The campaign started April 12 and 138 conventions were held throughout the company's territory.

A four-seasons selling program was outlined to the jobbers and dealers attending and they were shown how each season brings its own opportunities for the merchandising of goods and services the stations carry. They were also told of the sales possibilities in the tourists on their way to and from the New York World Fair.

The conventions were presented in the form of a circus sideshow, with "barkers" presenting the exhibits of sales helps and included were amusement features with which the conventions closed. To start the convention off, C. F. Hatmaker of New York, sales director of the company, was presented in a "talkie" of the company and its products and animated diagrams were presented showing the chemistry of the refining and processing of gasoline and lubricating oils.

"Built Like a Battleship"
HOWELL
SIZES ½ to 50 H.P.
This Type PASSED 122 UNDERWRITERS' TESTS!
HOWELL Explosion-Proof Motors are the safety answer to any drive job where inflammable gasoline or other vapors are handled or stored. They are approved by the Underwriters for Class 1, Group D Locations.
They have totally-enclosed frames strong enough to withstand any inside-motor explosion and prevent escape of flames. And design assures cool operation with no temperature rise sufficient to ignite surrounding gases.
Portion of frame cut away to show rugged interior construction, large cooling fan and continuous cooling passages around stator housing. Finest type of double cotton-covered, enameled wire provides the basis for motor windings.
these HOWELL Explosion-proof Motors
HOWELL pioneered totally-enclosed, fan-cooled motors — then adapted them to the explosion-proof design. No manufacturer knows more than HOWELL about this special type — the heaviest, most ruggedly built type of motors on the market today.
In these HOWELL Explosion-proofs we offer you the UTMOST in protection, plus highly efficient performance and a dependability that calls for practically no maintenance.
WRITE FOR NEW BULLETIN! Interesting story of HOWELL'S "Battleship" construction is told in our New Bulletin EK1. Get your copy NOW; either dial our 'phone number in your city, or write us at Howell.
HOWELL MOTORS
Make Good on Hard Jobs
HOWELL ELECTRIC MOTORS COMPANY
HOWELL, MICHIGAN
Representatives In All Principal Cities

Markets

Mid-Continent

TULSA, June 26.—Revisions in tank wagon gasoline prices in many parts of the country last week unsettled the Mid-Continent tank car market to the extent that some jobbers delayed purchases and some refiners held up making anticipated tank car price advances, according to reports here. Gasoline shipments against contracts for the most part, however, were heavy with supplies closely held, refiners said.

Natural gasoline also was reported closely held by manufacturers. Two manufacturers said they were still picking up small lots of Grade 26-70 to supplement their own output. Sales prices and quotations for Grade 26-70 were reported at 2.75 cents, f.o.b. Group 3 and Breckenridge, throughout the week.

Mid-Western

CHICAGO, June 26.—Open spot sales of 18 cars of gasoline, 10 of which were 70-72 octane, were reported by tank car marketers at Chicago last week. The tank wagon price advances and rescisions recently announced by several major companies in this area had little effect on tank car prices, reports here indicated.

Two tank car marketers said they had reduced their quotations for 70-72 octane leaded gasoline 0.125 cent to 4.5 cents near the end of the week, but aside from this no changes in quotations were reported. More inquiries for leaded gasoline were reported by most marketers and movement of gasoline was on a part with last year, reports indicated.

Kerosine was featureless, according to resale agents. Prices reported ranged from 3.5 to 4.375 cents.

Pennsylvania

CLEVELAND, June 26.—Prices generally were reported unchanged by western Pennsylvania refiners the third week in June. Movement of kerosine was said to have slowed down slightly but movement of other products against contracts was in good volume, refiners said. Several large blocks of bright stock changed hands in interrefinery transactions, according to reports.

Eastern

NEW YORK, June 26.—No changes in gasoline tank car prices along the eastern seaboard were reported by suppliers during the past week. Some shading of posted prices was indicated at Philadelphia and Boston, but lower-priced quotations could not be confirmed with suppliers.

Traders generally said that recent widespread advances in tank wagon prices, which at some points have been rescinded, did not have any appreciable effect on tank car prices.

Gulf

NEW YORK, June 26.—Open spot sales of two cargoes of gasoline for domestic shipment and a mixed cargo for export shipment were reported by refiners at the Gulf during the week ended June 24. Except for Grade C bunker oil, which was priced slightly higher in cargo lots, prices generally were reported unchanged.

One of the domestic cargoes called for approximately 80,000 barrels of 70-71 octane, 400 end point gasoline, for June loading, at 5.25 cents a gallon and the other domestic sale consisted of approximately 75,000 barrels of 70 octane, 400 end point gasoline at 5.25 cents for July lifting.

The mixed foreign cargo, for July lifting, called for 20,000 barrels of 53 diesel index gas oil at 3.375 cents a gallon and 30,000 barrels of 41-43 w. w. kerosine at 3.50 cents. Following this sale, the refiner closing the deal said he was asking 3.625 cents for kerosine.

A refiner who had been quoting 79 cents for Bunker C in cargoes reported advancing his quotation to 80 cents. Due to scarcity, bunker oil prices were said to be largely nominal.

California

LOS ANGELES, June 24.—Results of bids by California suppliers on approximately 15,000 drums and 1600 cases of 70 octane gasoline to be delivered to the Costa Rica oil monopoly over the coming year, showed Union Oil Co. low with delivered prices of 14.04 and 19.24 cents per gallon in drums and cases, respectively, according to reports here the past week. No awards were made on a 67-69 octane product, included in the original inquiry.

California offshore markets remained inactive. Suppliers said they were inclined to raise their sights on spot gasoline quotations, lining up with the Gulf on Pacific foreign shipments and shading these quotations only as far as necessary to become competitive on desirable Atlantic foreign business.

Several factors were said to have contributed to easier domestic gasoline prices, including the current federal investigation of California marketing practices, and the possibility of state control of oil production. Rack prices on competitive grades at most independent plants in the Los Angeles Basin were reported at 6.75 cents. Increased offerings of leaded motor fuel were reported at prices ranging upward of 7.5 cents.

Wax

NEW YORK, June 26.—Prices for fully refined and scale grades of wax were generally unchanged at New York and New Orleans during the week ended June 24, according to reports of suppliers here. Traders here said the shortage of some scale grades had eased to some extent.

N.P.N. Gasoline Index

	Dealer T.w. Cents	Tank Car per Gal.
June 26	9.72	5.71
Month ago	9.52	5.66
Year ago	10.18	6.18

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 12 wholesale markets for regular-grade gasoline.

Fuel Oil

CHICAGO, June 26.—Consumer demand for industrial fuels continued active throughout the past week, according to reports here. Southern Illinois refiners said they were now shipping heavy fuel to many points which had been supplied by Michigan refiners prior to the recent 40-car daily requisition for industrial fuel by Ford Motor Co. Bulk of heavy fuel movement continued to be against contracts and no changes in open spot prices were reported.

Jobber inquiry for domestic burner fuels for storage was somewhat more active, according to resale agents. No changes in quotations were reported.

* * *

TULSA, June 26.—Activity in Mid-Continent light fuel oils was reported at low ebb last week as distributor buying continued on a hand-to-mouth basis and storage buying was delayed. Quotations generally were unchanged, according to reports.

Heavy fuel for road oil and industrial uses were getting better play than for some time past, refiners said.

* * *

NEW YORK, June 26.—Movement of light fuel oils was seasonally light and supplies along the eastern seaboard were correspondingly low, according to reports of suppliers here the past week. Shipments of the heavy industrial fuels against contracts was good, reports indicated.

Prices for No. 5 oil generally were reported 10 cents per barrel higher at $1.25 at New York, Philadelphia and Baltimore, $1.35 at Boston, and $1.30 at Providence.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel of 42 gallons, wax and petrolatums in cents per pound in barrels, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Gasoline

Prices Effective	June 26	June 19
OKLAHOMA		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.25 – 4.625	4.25 – 4.625
63-66 oct.	4.50 – 4.875	4.50 – 4.875
67-69 oct.	4.75 – 5.125	4.75 – 5.125
70-72 oct.	5.00 – 5.375	5.00 – 5.375
60-62, 400 e.p.	(h) 4.25 –4.375	(h) 4.25 –4.375
WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
Motor gasoline:		
U.S. Motor (58-62°)	(e)4.50	(e)4.50
Min. 65 oct.	(h) 6.25 –6.75	(h) 6.25 –6.75
Min. 70 oct.	(e)6.50	(e)6.50
"Q" gasoline	(h)6.25 –6.75	(h) 6.25 –6.75
Other districts:		
Motor gasoline:		
U. S. Motor (58-62° gravity):	4.50 – 5.00	4.50 – 5.00
"Q" gasoline	6.25 – 6.50	6.25 – 6.50
CENTRAL MICHIGAN (a)		
Str.-Run Gasoline	4.375– 4.625	4.375– 4.625
U.S. Motor: (Octane L-3)		
67-69 octane	(e)6.25	(e)6.25
70-72 octane	7.00 – 7.25	7.00 – 7.25

Prices Effective	June 26	June 19
CALIFORNIA (3c tax to be added if used in state)		
U. S. Motor:		
54-58 gravity, for in-state shipment	6.75 – 9.25	7.00 – 9.25
54-58 gravity, for out-side state shipment	6.50 – 9.00	7.00 – 9.00
58-61 gravity, 375-400 e.p., 65 oct. & above	7.50 – 9.75	7.75 – 9.75
N. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.25 – 4.50	4.25 – 4.50
63-66 oct	4.625– 4.875	4.625– 4.875
67-69 oct	4.75 – 5.00	4.75 – 5.00
70-72 oct	5.00 – 5.375	5.00 – 5.375
60-62, 400 e.p.	(h)4.25	(h)4.25
KANSAS For Kansas destinations only)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.50 – 5.00	4.50 – 5.00
67-69 octane	4.875– 5.50	4.875– 5.50
70-72 octane	5.25 – 5.875	5.25 – 5.875
W. TEX. (b)		
U. S Motor: (Octane L-3)		
62 oct. & below	(h) 4.25 –4.50	(h) 4.25 –4.50
63-66 oct.	(e)4.75	(e)4.75
67-69 oct.	(h) 5.00 –5.50	(h) 5.00 –5.50
70-72 oct.	(e)5.25	(e&k)5.25

Prices Effective	June 26	June 19
CENTRAL WEST TEXAS (Prices to truck transports)		
U. S. Motor Gasoline: (Octane L-3)		
62 oct. & below	(h)4.25	(h)4.25
63-66 octane	(e)5.00	(e)5.00
66-70 octane	(e)5.125	(e)5.125
E. TEX.		
U. S. Motor Gasoline, (Octane L-3)		
70-72 oct	(h) 4.625–4.75	(h) 4.625–4.75
60-62, 400 e.p.	(h)4.25	(h)4.25
N. LA. (For shipment to La. & Ark.)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(h) 4.25 –4.375	(h) 4.25 –4.375
63-66 oct	(e) 4.59 –4.625	(e) 4.50 –4.625
67-69 oct	(e) 4.75 –4.875	(e) 4.75 –4.875
70-72 oct	(e) 5.125–5.375	(e) 4.875–5.375
ARKANSAS (F.o.b. Ark. plant of one refiner, for shipment to Ark. & La.)		
U. S. Motor: (Octane L-3)		
62 octane & below	4.625	4.625
67-69 oct	5.00	5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
70-72 octane	7.375	7.375

(Continued on next page)

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations: Group 3 prices quoted for northern shipment. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) Two suppliers quoting. (g) To resellers holding licenses. (h) Two refiners quoting. (i) No quotations reported. (j) Prices discontinued. (k) Correction: Thru clerical error, West Texas U. S. Motor Gasoline, 70-72 octane, was shown at 5.50c as of June 19 in June 21 issue; correct price that date was 5.25c. In Mid-Western Tank Car Market, U. S. Motor, 67-69 oct., June 19, should have been 4.50-5.00c, instead of 4.50-4.875c, as published on page 43 of June 21 issue.

MID-WESTERN TANK CAR MARKET

Prices in this Midwestern Tank Car Market table are gathered from refiners and tank car marketers or brokers from their offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight rate basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Generally when prices are quoted in this Chicago market, the origin of the material is not known at the time the quotation is given, oftentimes even with the quoting refiners who have refineries in more than one refining district. All other gasoline prices are given by and for the particular refining district where the material is made and from which it is shipped.

Gasoline

Prices Effective	June 26	June 19
U. S. Motor: (Octane L-3)		
62 oct. and below	4.00 – 4.50	4.00 – 4.50
63-66 oct.	4.375– 4.50	4.375– 4.50
67-69 oct.	4.50 – 4.875	4.50 – 4.875
70-72 oct.	4.50 – 5.125(k)	4.50 –5.00

Kerosine

41-43 gravity, w.w.	3.50 – 4.125	3.50 – 4.125
42-44 gravity, w.w.	3.625– 4.375	3.625– 4.375

Fuel and Gas Oils

Prices Effective	June 26	June 19
No. 1 p.w.	3.25 – 3.75	3.25 – 3.75
No. 1 straw	3.25 – 3.50	3.25 – 3.50
No. 2 straw	3.125– 3.50	3.125– 3.50
No. 3	2.875– 3.125	2.875– 3.125
No. 5	$0.575–$0.65	$0.575–$0.65

Prices Effective	June 26	June 19
No. 6	$0.35 –$0.45	$0.35 –$0.45
U. G. I. gas oil.	2.625– 3.00	2.625– 3.00
Range oil	3.25 – 3.875	3.25 – 3.875

Chicago Naphtha and Solvent

(FOB Group 3 as quoted by two Chicago sellers)

Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	7.375	7.375

Daily range of gasoline prices as reported in PLATT'S OILGRAM (Week Ended June 23, 1939)

U. S. Motor, (Octane Number determined according to L-3 Method in Okla., Texas and Mid-Western Districts):	June 19	June 20	June 21	June 22	June 23
62 octane and below:					
Oklahoma	4.25 – 4.625	4.25 – 4.625	4.25 – 4.625	4.25 – 4.625	4.25 – 4.625
(a) North Texas	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
West Texas	(d) 4.25 –4.50	(d) 4.25 –4.50	(d) 4.25 –4.50	(d) 4.25 –4.50	(d) 4.25 –4.50
Mid-Western (Group 3 basis)	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50	4.00 – 4.50
63-66 octane:					
Oklahoma	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875
(a) North Texas	4.625– 4.875	4.625– 4.875	4.625 –4.875	4.625– 4.875	4.625– 4.875
West Texas	(b)4.75	(b)4.75	(b)4.75	(b)4.75	(b)4.75
Mid-Western (Group 3 basis)	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50
67-69 octane:					
Oklahoma	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125	4.75 – 5.125
(a) North Texas	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
West Texas	(d) 5.00 –5.50	(d) 5.00 –5.50	(d) 5.00 –5.50	(d) 5.00 –5.50	(d) 5.00 –5.50
Mid-Western (Group 3 basis)	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
70-72 octane:					
Oklahoma	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375
(a) North Texas	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375
West Texas	(b)5.25	(b)5.25	(b)5.25	(b)5.25	(b)5.25
East Texas	(d) 4.625–4.75	(d) 4.625–4.75	(d) 4.625–4.75	(d) 4.625–4.75	(d) 4.625–4.75
Mid-Western (Group 3 basis)	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.50 – 5.25
Motor Gasoline, 60-64 octane:					
New York harbor	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Philadelphia district	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50
Baltimore district	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Motor Gasoline, 65 octane & above:					
New York harbor	6.25 – 6.35	6.25 – 6.35	6.25 – 6.35	6.25 – 6.35	6.25 – 6.35
Philadelphia district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Baltimore district	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
U. S. Motor, 58-62°:					
Bradford-Warren (Western Penna.)	(b) 4.50	(b) 4.50	(b)4.50	(b)4.50	(b)4.50
Other districts (Western Penna.)	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Motor Gasoline, Min. 65 octane:					
Bradford-Warren (Western Penna.)	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75
Motor Gasoline, Min. 70 octane:					
Bradford-Warren (Western Penna.)	(b) 6.50	(b) 6.50	(b) 6.50	(b)6.50	(b)6.50
"Q" Gasoline:					
Bradford-Warren (Western Penna.)	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75	(d) 6.25 –6.75
Other Districts (Western Penna.)	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50

(a) For shipment to Texas and New Mexico destinations: Group 3 prices are quoted on northern shipment. (b) One refiner quoting. (c) To resellers holding licenses. (d) Two refiners quoting.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon except heavy fuel oils in dollars per barrel of 42 gallons, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Natural Gasoline

(Prices to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

Prices Effective	June 26	June 19
FOB GROUP 3		
Grade 26-70	(l)2.75	(m)2.75
FOB BRECKENRIDGE		
Grade 26-70	(l)2.75	(l)2.75
CALIFORNIA (F.o.b. plants in Los Angeles basin) 75-85, 350-375 e.p. for blending	6.00 – 6.50	6.00 – 6.75

Kerosine

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
45 gravity w.w.	4.875– 5.00	4.875– 5.00
46 gravity w.w.	(e)5.375	(e)5.375
Other districts:		
45 gravity w.w.	5.00 – 5.25	5.00 – 5.25
46 gravity w.w.	(e)5.125	(e)5.125
47 gravity w.w.	5.25 – 5.50	5.25 – 5.50
CENTRAL MICHIGAN (a)		
47-49 gravity w.w.	5.00 – 5.20	5.00 – 5.20
OKLAHOMA		
41-43 gravity w.w.	3.75 – 4.25	3.75 – 4.25
42-44 gravity w.w.	3.875– 4.625	3.875– 4.625
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	(e)4.125	(e)4.125
42-44 gravity w.w.	4.125– 4.50	4.125– 4.50
N. TEX. (b)		
41-43 gravity w.w.	4.00 – 4.50	4.00 – 4.50
N. LA. (For shipment to La. and Ark.)		
41-43 gravity w.w.	(h) 3.75 –4.125	(h) 3.75 –4.125
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 gravity w.w.	4.25	4.25
CALIFORNIA		
40-43 gravity w.w.	5.00 – 7.00	5.00 – 7.00

Gas *and* Fuel Oils

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
36-40 gravity	(e)4.625	(e)4.625
Other districts: (Excluding Pittsburgh District Prices)		
36-40 gravity	4.25	4.25
CENTRAL MICHIGAN (a)		
P.W. Distillate	4.00 – 4.50	4.00 – 4.50
No. 3 gas oil, Str.	3.75 – 4.25	3.75 – 4.25
U.G.I. gas oil	3.50 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.375– 2.50	2.375– 2.50
300-500 Vis.	2.50 – 2.75	2.50 – 2.75
100-300 Vis.	2.75 – 3.25	2.75 – 3.25
OKLAHOMA		
No. 1 prime white	3.375– 3.875	3.375– 3.875
No. 1 straw	(e)3.375	(e)3.375
No. 2 straw	3.25 – 3.375	3.25 –3.375
No. 2 dark	(h) 2.75 –3.25	(h) 2.75 –3.25
U.G.I. gas oil	(h) 3.00 –3.25	(h) 3.00 –3.25
28-30 gravity fuel oil	(e)3.25	(e)3.25
28-30 gravity zero fuel	2.50 – 3.25	2.50 – 3.25
24-26 gravity fuel	(e) $0.85–$0.90	(e) $0.85–$0.90
14-16 gravity fuel	(e)$0.70	(e)$0.70
No. 6 fuel	(h) $0.35–$0.45	(h) $0.35–$0.45
Range oil	(e)3.625	(e)3.625
KANSAS (For Kans. destinations only).		
No. 1 p.w. fuel oil	3.75 – 3.875	3.75 – 3.875
10-14 gravity fuel oil	$0.45 –$0.80	$0.45 –$0.80
N. TEX. (b)		
No. 1 Prime white	(e)3.75	(e)3.75
N. LA. (For shipment to La. and Ark.)		
20-24 gravity fuel	(e) $0.95–$1.05	(e) $0.95–$1.05
16-20 gravity fuel	(e) $0.75–$0.85	(e) $0.75–$0.85
10-14 gravity fuel	(e) $0.65–$0.75	(e) $0.65–$0.75
ARK. (F.o.b. Ark. plant of one refiner, for shipment to Ark. and La.)		
No. 2 fuel	3.375	3.375
28-30 gravity gas oil, zero	3.125	3.125
Tractor Fuel	(j)4.625	(j)4.625

Prices Effective	June 26	June 19
CALIFORNIA		
San Joaquin Valley:		
Heavy fuel	$0.50 –$0.75	$0.50 –$0.75
Light fuel	$0.75 –$0.85	$0.70 –$0.85
Diesel fuel (per gal.)	2.75 – 4.00	2.25 – 4.00
Stove dist. (per gal.)	3.00 – 5.00	2.75 – 5.00
Los Angeles:		
Heavy fuel	$0.50 –$0.90	$0.50 –$0.90
Light fuel	$0.55 –$1.00	$0.60 –$1.00
Diesel fuel (per gal.)	2.00 – 4.00	1.75 – 4.00
Stove dist. (per gal.)	2.25 – 5.00	2.00 – 5.00
San Francisco:		
Heavy fuel	$0.95	$0.95
Light fuel	$1.05	$1.05
Diesel fuel (per gal.)	4.50	4.50
Stove dist. (per gal.)	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Neutral Oils

WESTERN PENNA. REFINERY QUOTATIONS

Viscous Neutrals No. 3 col. (Viscosity at 70° F.)

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	(e)19.50	(e)19.50
10 p.t.	(e)18.50	(e)18.50
15 p.t.	(e)18.00	(e)18.00
25 p.t.	16.50 –17.00	16.50 –17.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	(e)18.50	(e)18.50
10 p.t.	(e)17.50	(e)17.50
15 p.t.	(e)16.50	(e)16.50
25 p.t.	14.50 –15.50	14.50 –15.50

SOUTH TEXAS

Vis	Color		
Pale Oils: (*Vis. at 100°F*)			
100	No. 1½-2½	4.50 – 5.00	4.50 – 5.00
200	No. 2-3	6.00 – 6.25	6.00 – 6.25
300	No. 2-3	6.50 – 6.75	6.50 – 6.75
500	No. 2½-3½	7.50 – 7.75	7.50 – 7.75
750	No. 3-4	8.00 – 8.25	8.00 – 8.25
1200	No. 3-4	8.375– 8.75	8.375– 8.75
2000	No. 4	8.50 – 9.25	8.50 – 9.25
Red Oils:			
200	No. 5-6	6.00 – 6.25	6.00 – 6.25
300	No. 5-6	6.50 – 6.75	6.50 – 6.75
500	No. 5-6	7.50 – 7.75	7.50 – 7.75
750	No. 5-6	8.00 – 8.25	8.00 – 8.25
1200	No. 5-6	8.375– 8.75	8.375– 8.75
2000	No. 5-6	8.50 – 9.25	8.50 – 9.25

Note: Red oil prices cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Vis. at 100° F.; F.o.b. Tulsa basis).

Pale Oils: (0 to 10 P.P.)			
Vis.	Color		
60-85	No. 2	5.50	5.50
86-110	No. 2	6.00	6.00
150	No. 3	9.00	9.00
180	No. 3	9.50 –10.00	9.50 –10.00
200	No. 3	10.00 –10.50	10.00 –10.50
250	No. 3	11.00 –11.50	11.00 –11.50
280	No. 3	12.50	12.50
300	No. 3	13.00	13.00
Red Oils:			
180	No. 5	(e)9.00	(e)9.00
200	No. 5	9.00 – 9.50	9.00 – 9.50
280	No. 5	(h) 11.50–11.75	(h) 11.50–11.75
300	No. 5	(h)12.00	(h)12.00

Note: The following oils, of 15 to 25 p.p., are generally quoted these amounts under 0-10 p.p.; viscous oils, 0.5c; non-viscous, 0.25c. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils.

CHICAGO (Vis. at 100° F.)

(e) Pale Oils 0 to 10 p.p.

Vis.	Color		
60-85	No. 2	7.25	7.25
86-110	No. 2	7.75	7.75
150	No. 3	9.00	9.00
180	No. 3	10.00	10.00
200	No. 3	10.50	10.50
250	No. 3	11.50	11.50

Prices Effective	June 26	June 19
CHICAGO (Continued)		
(e) Red Oils:		
180—No. 5	9.00	9.00
200—No. 5	9.50	9.50
250—No. 5	10.50	10.50
280—No. 5	11.50	11.50
300—No. 5	11.75	11.75

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis)

Bright Stocks:		
190-200 Vis. at 210° D.	(e)19.00	(e)19.00
150-160 Vis. at 210° D:		
0 to 10 p.p.	14.25 –16.00	14.25 –16.00
10 to 25 p.p.	13.50 –15.00	13.50 –15.00
25 to 40 p.p.	(h) 13.25–13.50	(h) 13.25–13.50
150-160 vis. at 210° E.	12.50 –14.50	12.50 –14.50
120 Vis. at 210° D:		
0 to 10 p.p.	(h) 13.75–14.50	(h) 13.75–14.50
25 to 40 p.p.	(e)12.75	(e)12.75
600 S.R. Dark Green	(e)5.50	(e)5.50
600 S.R. Olive Green	(h) 7.00 –7.50	(h) 7.00 –7.50
631 S.R.	(e)12.50	(e)12.50
Black Oil	(h) 3.50 –4.00	(h) 3.50 –4.00

(e) CHICAGO (Viscosity at 210°)

Unfiltered Steam Refined:		
140	9.00	9.00
160	10.00	10.00
200	11.00	11.00
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.75	15.75
15 to 25 p.p.	14.75	14.75
30 to 40 p.p.	14.25	14.25
E filtered Cyl. Stock	13.50	13.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

WESTERN PENNA. REFINERY QUOTATIONS

600 S.R. filterable	8.00 –10.00	8.00 –10.00
650 S.R.	10.00 –11.50	10.00 –11.50
600 fl.	10.50 –12.00	10.50 –12.00
630 fl.	13.00 –14.00	13.00 –14.00
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:		
10 p.t.	18.50 –19.50	18.50 –19.50
15 p.t.	17.50 –18.50	17.50 –18.50
25 p.t.	15.50 –16.50	15.50 –16.50

Petrolatums

WESTERN PENNA. (In bbls., carloads; in tank cars, 0.5c per lb. less. One refiner reports he equalizes freight with nearest refinery to destination).

Snow White	5.875– 6.125	5.875– 6.125
Lily White	4.875– 5.125	4.875– 5.125
Cream White	3.875– 4.125	3.875– 4.125
Light Amber	2.50	2.50
Amber	2.25	2.25
Red	(e)2.125	(e)2.125

Wax

WESTERN PENNA. REFINERY QUOTATIONS

In bbls., carloads, New York.

122-124 A.m.p., w.c. scale	(h)3.00	(h)3.00
124-126 A.m.p., w.c. scale	3.00	3.00

OKLAHOMA (In bbls. or burlap bags, carloads)

124-126 A.m.p., w.c. scale	(h)3.00	(h)3.00

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:		
122-124 (bags only)	4.25	4.25
125-127	4.35	4.35
127-129	4.70	4.70
130-132	5.00	5.00
132-134	5.25	5.25
135-137	6.00	6.00

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations: Group 3 prices quoted on northern shipments. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) No quotations reported. (g) To resellers holding licenses. (h) Two refiners quoting (j) For shipment to Ark. points only. (k) Two suppliers quoting. (l) Quotations. (m) Sales.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include* 1c *federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect June 26, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	6.9	8.7	4	7
*Newark, N. J.	6.9	8.7	4	7
Annapolis, Md	7.85	9.35	5	8
Baltimore, Md	7.25	8.75	5	8
Cumberland, Md	8.65	11.15	5	10
Washington, D. C.	7.5	9	3	9.5
Danville, Va	8.45	10.95	6	12.9
Norfolk, Va	7.25	9.75	6	11.5
Petersburg, Va	7.55	10.05	6	11.7
Richmond, Va	7.55	10.05	6	10.7
Roanoke, Va	8.75	11.25	6	11
Charleston, W. Va	8.05	10.55	6	12.6
Parkersburg, W. Va	7.35	9.35	6	11.2
Wheeling, W. Va	8.35	10.25	6	12.2
Charlotte, N. C.	8.4	10.9	7	11.8
Hickory, N. C.	8.95	11.45	7	12.3
Mt. Airy, N. C.	8.8	11.3	7	12.2
Raleigh, N. C.	8.15	10.65	7	11.5
Salisbury, N. C.	8.45	10.95	7	11.9
Charleston, S. C.	7.25	9.75	7	10.6
Columbia, S. C.	8.25	10.75	7	11.6
Spartanburg, S. C.	8.95	11.45	7	12.4

Discount to undivided dealers: thru territory, except New Jersey points, which see in "Note" below: Dealer t.w. price less 0.5c per gal.

*Effective Dec. 1, 1938, S. O. New Jersey posted a minimum retail resale price of 11.2c thru New Jersey, except Trenton area and Cumberland county.

Note: While the above posted prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.2c per gal. for Essolene. Dealers having pumps marked only Esso, Essolene and "Standard" White gasoline will pay 7.7c per gal. for Essolene.

Kerosine Discount: 1c off t.w. price for 25 gals., or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(*S. O. New York Division*)

Socony Mobilgas
(*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Metropolitan N.Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	6.8	8.5	*5	6.75
Borough of Richmond (Staten Is.)	6.8	8.5	*5	6.75
Albany, N. Y.	6.7	9	5	7
Binghamton, N. Y.	7.8	10	5	8
Buffalo, N. Y.	7.4	6.8	5	7.5
Jamestown, N. Y.	7	8.5	5	7.5
Plattsburg, N. Y.	7.3	9.8	5	7.5
Rochester, N. Y.	7.6	9	5	7.75
Syracuse, N. Y.	7.3	8.5	5	7.25
Danbury, Conn.	7.5	9	4	7.75
Hartford, Conn.	7.1	9.2	4	6.50
New Haven, Conn.	7	8.25	4	6
Bangor, Me.	7.1	9.4	5	7
Portland, Me.	6.7	8.7	5	6.75
Boston, Mass.	6.7	8.25	4	6.5
Concord, N. H.	7.5	9.8	5	7.5
Lancaster, N. H.	8.3	10.7	5	8.5
Manchester, N. H.	7.4	9.4	5	7.25
Providence, R. I.	6.7	8.5	4	6.5
Burlington, Vt.	7.2	8.5	5	7.25
Rutland, Vt.	7.6	8.5	5	7.5

*Plus 2% city sales tax computed at time of each sale.

Discount to undirided dealers: 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline
(*Regular Grade*)

	Commercial Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7	8.5	5	10
Pittsburgh	8	9.5	5	10.5
Allentown	7.5	9	5	10.5
Erie	8	9.5	5	10
Scranton	7.5	9	5	10.5
Altoona	8	9	5	10.5
Harrisburg	7.5	9	5	10.5
Williamsport	8	9.5	5	10.5
Dover, Del.		9	5	10.5
Wilmington		8.5	5	9.75
Boston, Mass		8.25	4	6.25
Springfield, Mass		9.3	4	7
Worcester, Mass		8.5	4	7
Fall River, Mass		8.5	4	7
Hartford, Conn		9.2	4	6.5
New Haven, Conn		8.25	4	7
Providence, R. I.		8.5	4	6.5
Atlantic City, N. J.		8.2	4	7
Camden, N. J.		8.1	4	7
Trenton, N. J.		8.2	4	7
Annapolis, Md		9.35	5	9.5
Baltimore, Md		8.75	5	8
Hagerstown, Md.		9.85	5	10
Richmond, Va.		10.05	6	10.7
Wilmington, N. C.		9.85	7	10.8
Brunswick, Ga.		9.5	7	*10.5
Jacksonville, Fla.		9	8	10

*Georgia has kerosine tax of 1c per gal., not included in above price.

Discount to undivided dealers: Dealer t.w. less 0.5c per gal. except in Georgia and Florida, dealer t.w. and undivided dealer price is same.

S. O. Ohio

Sohio X-70 Gasoline
(Regular Grade)

	Consumer T.W.	†Divided Dlr.	‡S.S.	Gasoline Taxes	Kerosine T.W.
Ohio, Statewide	10.5	9.5	12.5	5	*12
Akron	10.5	8.5	10.5	5	*8.5
Cincinnati	10.5	9	11.5	5	*12
Cleveland	10.5	9.5	12.5	5	*12
Columbus	10.5	9	11.5	5	*12
Dayton	10.5	9	11.5	5	*12
Marietta	10.5	9	11.5	5	*12
Portsmouth	10.5	9.5	12.5	5	*12
Toledo	10.5	8.5	11	5	*12
Youngstown	10.5	9	11.5	5	*11.5

Renown Gasoline
(Third Grade)

Ohio, Statewide	10.5	9.5	12.5	5	....
Akron	10.5	8.5	10.5	5	....
Cincinnati	10.5	9	11.5	5	....
Cleveland	10.5	9.5	12.5	5	....
Columbus	10.5	9	11.5	5	....
Dayton	10.5	9	11.5	5	....
Marietta	10.5	9	11.5	5	....
Portsmouth	10.5	9.5	12.5	5	....
Toledo	10.5	8.5	11	5	....
Youngstown	10.5	9	11.5	5	....

Note: Prices at other Ohio points may be obtained by writing NPN.

*Ohio has kerosine tax of 1c per gal., not included in above prices.

†This price also to authorized agents, exclusive of 0.5c rental.

‡Prices are at company-operated service stations.

Discount to undivided dealers: 0.5c less than divided dealer t.w.

S. O. Kentucky

Note: Due to lack of details at time this table went to press, gasoline prices do not reflect the 0.5c general advance, June 20, made by S. O. Kentucky thru its territory.

Crown Gasoline
(*Regular Grade*)

	Consumer T.W.	Net Dlr.	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	11.5	8.5	6	9.5
Lexington, Ky.	13	10	6	10
Louisville, Ky.	12	9	6	9
Paducah, Ky.	12	9	6	9
Jackson, Miss.	11.5	8.5	7	*9
Vicksburg, Miss.	11.5	8.5	7	*8.5
Birmingham, Ala.	12.5	9.5	*8	8.5
Mobile, Ala.	11.5	8.5	*9	8.5
Montgomery, Ala.	12.5	9.5	*9	*9.5
Atlanta, Ga.	13.5	10.5	7	*8
Augusta, Ga.	12.5	9.5	7	*8
Macon, Ga.	11.5	8.5	7	*9
Savannah, Ga.	11.5	8.5	7	*7
Jacksonville, Fla.	11.5	8.5	8	8
Miami, Fla.	11.5	8.5	8	8
Pensacola, Fla.	11.5	8.5	*9	8
Tampa, Fla.	11.5	8.5	8	8

Kyso Gasoline
(*Third Grade*)

Covington, Ky.	10	7.5	6	....
Lexington, Ky.	11.5	9	6	....
Louisville, Ky.	10.5	8	6	....
Paducah, Ky.	10	7.5	6	....
Jackson, Miss.	10	7.5	7	....
Vicksburg, Miss.	10	7.5	7	....
Birmingham, Ala.	10.5	8	*8	....
Mobile, Ala.	9	6.5	*9	....
Montgomery, Ala.	10.5	8	*9	....
Atlanta, Ga.	11.5	9	7	....
Augusta, Ga.	11	8.5	7	....
Macon, Ga.	9.5	7	7	....
Savannah, Ga.	9.5	7	7	....
Jacksonville, Fla.	10	7.5	8	....
Miami, Fla.	10	7.5	8	....
Pensacola, Fla.	10	7.5	*9	....
Tampa, Fla.	10	7.5	8	....

Discounts to all tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below, regardless of quantity purchased, per month

**Taxes*: In the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have kerosine taxes of 1c per gal., and Mississippi 0.5c, not included in above prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.1	9.1	7.9	4	10
Decatur, Ill.	11.1	9.6	8.2	4	10
Joliet, Ill.	11.1	9.6	8.1	4	10
Peoria, Ill.	11.1	9.6	9.1	4	10
Quincy, Ill.	10.9	9.4	7.3	4	9.8
Indianapolis, Ind.	11.8	10.3	9.8	5	*10.7
Evansville, Ind.	11.6	10.1	9.6	5	*10.5
South Bend, Ind.	12.1	10.6	10.1	5	*10
Detroit, Mich.	9.6	8.1	7.6	4	7.1
Grand Rapids, Mich.	10.5	9	8.5	4	9.7
Saginaw, Mich.	11.8	9.6	8.6	4	9.3
Green Bay, Wis.	11.9	10.4	9.9	5	10.8
Milwaukee, Wis.	11.3	9.8	9.3	5	10.2
La Crosse, Wis.	11.5	10	9.5	5	10.4
Minneapolis-St. Paul	11.5	10	9.5	5	10.4
Duluth, Minn.	11.9	10.4	9.9	5	10.8
Mankato, Minn.	11.5	10	9.5	5	9.4
Des Moines, Ia.	10.9	9.4	8.9	4	*9.8
Davenport, Ia.	11.1	9.6	9.1	4	*10
Mason City, Ia.	11.3	9.8	7.4	4	*10.2
St. Louis, Mo.	10.7	9.2	8	*4	8
Kansas City, Mo.	10.4	8.9	7.9	*4	8
St. Joseph, Mo.	10.4	8.5	8.9	8.4	7.9
Fargo, N. D.	12.7	11.2	10.7	4	11.6
Huron, S. D.	12	10.5	10	5	10.9
Wichita, Kans.	9.9	7.6	6.5	4	7.4

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax. Kerosine taxes: Indiana has 4c, Iowa 3c per gal. state tax, not included in above prices.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha, Neb.	11.5	10	6	10.3
McCook	12	9	6	9
Norfolk	11	9.9	6	9
North Platte	12.3	10.8	6	11.1
Scottsbluff	12	9.9	6	11

S. O. Louisiana

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.25	9.75	7.5	10
Alexandria, La.	6.75	9.25	8	*11.5
Baton Rouge, La.	6.75	9.25	8	**9.5
New Orleans, La.	6.75	9.25	*10	*9
Lake Charles, La.	6.75	9.25	8	*11.5
Shreveport, La.	5.5	8	8	*10
Lafayette, La.	7	9.5	8	*10
Bristol, Tenn.	10.25	9	8	13
Chattanooga, Tenn.	9.5	11	8	14
Knoxville, Tenn.	10	12.5	8	14.5
Memphis, Tenn.	8	10.5	8	11
Nashville, Tenn.	9	11.5	8	12

*Taxes: New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana has kerosine tax of 1c per gal.; in addition New Orleans has 1c parish tax, none of which are included in above prices.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida 1/8c; Illinois, 3/100c; Indiana, 1/5c per gal. in lots up to 25 bbls.; 2/25c per gal. in lots of 25 bbls. or more; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. lots of more than 50, in bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 3/100c.

Kerosine inspection fee only: Iowa, 3/50c; Michigan, 1/5c per gal.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes: kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect June 26, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

Humble Oil & Refining Co.

Humble Motor Fuel
(Regular Grade)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex	8	12	5	8
Ft. Worth, Tex	9	13	5	7
Houston, Tex	9	13	5	8
San Antonio, Tex	9	13	5	8

Thriftane
(Leaded, 67 Octane, Purple Gasoline)

Dallas	7	10	5
Ft. Worth	8	11	5
Houston	8	11	5
San Antonio	8	11	5

U. S. Motor Gasoline
(Third Grade)

Dallas, Tex	6.5	..	5	
Ft. Worth, Texas	6.5	..	5	
Houston, Tex	6.5	..	5	
San Antonio, Tex	6.5	..	5	

*These tank wagon prices apply to all classes of dealers and consumers.

Continental Oil

Note: Due to lack of details at time this table went to press, gasoline prices are not changed to reflect the 0.5c cut Continental Oil made June 21 at points where marketers rescinded their recent 0.5c advance.

Conoco Bronz-z-z (Regular Grade)

	††T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Denver, Col	11	..	5	11.5
Grand Junction, Col	13.5	..	5	15
Pueblo, Col	11.5	..	5	9
Casper, Wyo	12.5	..	5	11.5
Cheyenne, Wyo	10.5	..	5	13
Billings, Mont	12.5	..	6	13
Butte, Mont	14	..	6	15.5
Great Falls, Mont	13.5	..	6	15.5
Helena, Mont	14.5	..	6	15.5
Salt Lake City, Utah	12.5	12.5	5	16
Boise, Ida	14.6	14.6	6	18
Twin Falls, Ida	15.1	15.1	6	18
Albuquerque, N. M	10.5	10.5	†6.5	10
Roswell, N. M	9	9	†6.5	8
Santa Fe, N. M	10.5	10.5	*7	10
Ft. Smith, Ark	9.5	..	5	7.5
Little Rock, Ark	9.75	..	7.5	8
Texarkana, Ark	9.5	..	5	8
Muskogee, Okla	8	..	5	7
Oklahoma City, Okla	8	..	5	6.5
Tulsa, Okla	8	..	5	7

Demand Gasoline
(Third Grade)

Denver, Col	10	..	5	....
Grand Junction, Col	12.5	..	5	....
Pueblo, Col	10.5	..	5	....
Casper, Wyo	11.5	..	5	....
Cheyenne, Wyo	9.5	..	5	....
Billings, Mont	11.5	..	6	....
Butte, Mont	11	..	6	....
Great Falls, Mont	10.5	..	6	....
Helena, Mont	13.5	..	6	....
Salt Lake City, Utah	11.5	11.5	5	....
Boise, Ida	13.6	13.6	6	....
Twin Falls, Ida	14.1	14.1	6	....
Albuquerque, N. M	8.5	8.5	†6.5	....
Roswell, N. M	8	8	†6.5	....
Santa Fe, N. M	9.5	9.5	*7	....
Ft. Smith, Ark	7	..	5	....
Little Rock, Ark	7.5	..	7.5	....
Texarkana, Ark	7	..	5	....
Muskogee, Okla	7	..	5	....
Oklahoma City, Okla	7	..	5	....
Tulsa, Okla	7	..	5	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
‡Prices are in t.w. deliveries to consumers and dealers.
**Prices include 0.1c to cover 1-mill tax for toll bridges.
††T.w. price in all states except Utah, Idaho and New Mexico is to consumers and dealers.

S. O. California

Standard Gasoline
(Regular Grade)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal	13.5	14.5	4	11.5
Los Angeles, Cal	13	14	4	10
Fresno, Cal	14.5	15.5	4	12.5
Phoenix, Ariz	15.5	16.5	6	*12.5
Reno, Nev	15.5	16.5	5	13.5
Portland, Ore	14	15	6	13.5
Seattle, Wash	14	15	6	†13.5
Spokane, Wash	15.5	16.5	6	†16.5
Tacoma, Wash	14	15	6	†13.5

Flight Gasoline
(Third Grade)

San Francisco, Cal	12	13	4	....
Los Angeles, Cal	11.5	12.5	4	....
Fresno, Cal	13	14	4	....
Reno, Nev	14	15	5	....
Phoenix, Ariz	11	12	6	....
Portland, Ore	12.5	13.5	6	....
Seattle, Wash	12.5	13.5	6	....
Spokane, Wash	14	15	6	....
Tacoma, Wash	12.5	13.5	6	....

*Arizona has kerosine tax of 5c per gal., not included in above prices.
†Washington has 0.25c per gal. tax on kerosine sales, not included in above prices.
Discount to 100% dealers, thru territory, off posted t.w. prices, on gasolines: on Standard Ethyl, Standard Gasoline and Stanavo Aviation, 3c per gal.; on Flight gasoline, 2c.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline
(Regular Grade)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont	15	8	15.5
Toronto, Ont	15	8	15.5
Brandon, Man	21	7	22
Winnipeg, Man	19.5	7	20.5
Regina, Sask	19	7	21
Saskatoon, Sask	21.3	7	23.3
Edmonton, Alta	19.5	7	21.5
Calgary, Alta	16.5	7	18.5
Vancouver, B. C	16	7	23
Montreal, Que	14	8	14.5
St. John, N. B	13.5	10	17.5
Halifax, N. S	13.5	10	17.5

Discounts to undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price. Divided dealers pay t.w. price, thru territory.

Aviation Gasoline

Following are tank car, tank wagon or dealer prices, as indicated, of aviation gasoline in several marketing territories.

S. O. OHIO
Thru Ohio
Esso Aviation

Consumer T.W.	Gasoline Taxes
74 octane 15.5	5
80 octane 16.5	5
87 octane 17.5	5

Discounts: For delivery on contract to hangar operators and resellers: 2c below consumer posted t.w. price, shown above.

S. O. INDIANA
Stanavo Ethyl Aviation Gasoline
73 Octane Number

Chicago, Ill	14.9	
Detroit, Mich	16.5	4
Milwaukee, Wis	15.1	5
Minneapolis, Minn	15.3	5
St. Louis, Mo	14.5	3
Kansas City, Mo	14.2	*4
Fargo, N. D	16.5	4
Huron, S. D	15.8	5

*Includes 1c city tax.

HUMBLE OIL & REFINING CO.
74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex	8.5

CONTINENTAL OIL CO.
Conoco Special Gasoline

Dealer Price	Gasoline Taxes
Denver, Colo 14.5	5
Cheyenne, Wyo 15	5
Helena, Mont 22	6
Salt Lake City, Utah 17.5	5
Albuquerque, N. M 14	*6.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA
Stanavo Aviation Gasoline

	T.W.	
Phoenix, Ariz	17.5	6
Los Angeles, Cal	15	4
San Francisco, Cal	15.5	4
Reno, Nev	17.5	5
Portland, Ore	16	6
Seattle, Wash	16	6
Spokane, Wash	19	6

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

S. O. NEW JERSEY

	Posted Tank Wagon Prices Mineral Spirits	V.M. & P.
Newark, N. J	11.5	15.5
Baltimore, Md	15.5	....
Washington, D. C	15	....

Discounts: Buyers taking following quantities at one time, get these discounts: Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y	10.5	12
*New York City	9.5	10.5
Rochester, N. Y	12	12
Syracuse, N. Y	12	14.5
Boston, Mass	11	11
Bridgeport, Conn	11	11.5
Hartford, Conn	10.5	11
Providence, R. I	11	12

*Prices apply to consumers only in quantities over 1,000 gals. annually. For quantities under 1,000 gals. annually, add 0.5c per gal.

ATLANTIC REFINING CO.

Philadelphia, Pa	11.5	12.5
Lancaster, Pa	13	14
Pittsburgh, Pa	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	12.5	13.5

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers off t.w. price; 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA
(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill	16.2	16.5	15.9
Detroit, Mich	19.2	18.2	19.7
Kansas City, Mo	13.9	14.9	14.4
St. Louis, Mo	14.2	15.2	12.9
Milwaukee, Wis	18.8	19.8	19.3
Minneapolis, Minn.	19	20	17.7

Note: All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.5	9.5
New York Harbor	10	9
Philadelphia district	10.5	9
Boston	10.5	9.5
Providence	10.5	9.5
†Ohio points, delivered	8.5	*8

*This is on rubber solvent.
†In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.125c less than on V.M.&P.

Price Changes

Dates and amounts of changes. See table for full current prices.

Socony-Vacuum Oil—Socony Mobilgas:
Bunalo split dealer price cut 0.25c, June 9.

Atlantic Refining—Atlantic White Flash:
Erie and Altoona dealer t. w. up 0.5c, June 16.
Brunswick dealer t. w. up 0.5c, June 15; up 0.5c, June 21.
Jacksonville dealer t. w. up 0.5c, June 20.

S. O. Kentucky—Crown and Kyso Gasolines:
Consumer t. w. and net dealer prices up 0.5c, generally, thru Alabama, Florida, Georgia, Kentucky and Mississippi, June 20.

S. O. Indiana—Red Crown and Stanolind:
Consumer t. w. and dealer prices advanced to normal at few remaining subnormal points in Wisconsin, June 26.
Details of Wisconsin advance were: Milwaukee Red Crown consumer t. w. and dealer price up 0.4c; Stanolind dealer up 1c; and Green Bay Stanolind dealer only up 1.1c.

S. O. Louisiana—Essolene:
Bristol dealer t. w. up 0.5c, June 6.

Humble Oil & Refining—Thriftane and Humble Motor Fuel:
Dallas t. w. and s. s. cut 1c, June 21.

Continental Oil—Conoco Bronz-z-z and Demand:
Consumer and dealer t. w. cut 0.5c at points where other marketers rescinded their 0.5c advance made during week of June 12, June 21.

Coming Meetings

American Institute of Mining and Metallurgical Engineers, regional meeting, San Francisco, July 10 to 13.

American Society of Mechanical Engineers, San Francisco, July 10 to 15.

American Society for Testing Materials, San Francisco, July 23 to 30.

Retail Gasoline Dealers Assn. of Wisconsin, 7th annual convention, Hotel Retlaw, Fond du Lac, Wis., Aug. 8, 9.

American Institute of Mining and Metallurgical Engineers, Industrial Minerals Division, Tuscaloosa, Ala., Sept. 2, 3, 4.

American Society of Mechanical Engineers, Hotel Pennsylvania, and Engineering Societies Bldg., 29 West 39th St., New York, Sept. 4 to 8.

Oil Workers International Union, Hammond Ind., Sept. 5.

American Chemical Society, Detroit, Sept. 9 to 13.

Montana National Bituminous Conference, Sun Valley, Idaho, Sept. 11 to 14.

National Assn. of Petroleum Retailers, Des Moines, Iowa, Sept. 11 to 14.

American Chemical Society, Boston, Mass., Sept. 11 to 15.

National Petroleum Assn., 37th annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 13, 14, 15.

Oil Trades Assn. of New York, sports day, Pelham Country Club, Pelham, N. Y., Sept. 19.

New Jersey Oil Trades Assn., fall outing, Sept. 28.

Society of Automotive Engineers, Hotel Schroeder, Milwaukee, Sept. 28, 29.

National Lubricating Grease Institute, Stevens Hotel, Chicago, Oct. 2, 3.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Galveston, Tex., Oct. 4, 5, 6.

Society of Automotive Engineers, National Aircraft production meeting, Ambassador Hotel, Los Angeles, Calif., Oct. 5, 6, 7.

American Gas Assn., annual convention, New York, Oct. 9, 10.

Society of Automotive Engineers, Annual dinner, Hotel Pennsylvania, New York, Oct. 16.

Independent Petroleum Assn. of America, 10th annual meeting, Ft. Worth, Tex., Oct. 18-20.

National Tax Conference, Palace Hotel, San Francisco, week of Oct. 16.

40th Annual National Automobile Show, Grand Central Palace, New York, week of Oct. 15.

National Safety Congress and Exposition, Convention Hall, Atlantic City, N. J., Oct. 16 to 20.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 19, 20.

West Virginia Petroleum Assn., Hotel Daniel Boone, Charleston, W. Vt., Oct. 25.

Society of Automotive Engineers Transportation & Maintenance Meeting, Coronado, Hotel, St. Louis, Mo., Oct. 26, 27.

Colorado Petroleum Industries Committee, annual convention, Shirley-Savoy Hotel, Denver, Oct. 27.

Oil Trades Assn. of New York, annual banquet, Waldorf-Astoria Hotel, New York, Nov. 1.

Society of Automotive Engineers Fuel & Lubricants Meeting, Mayo Hotel, Tulsa, Okla., Nov. 2, 3.

National Motor Truck Show, Navy Pier, Chicago, Nov. 8-16.

American Petroleum Institute, 20th annual meeting, Stevens Hotel, Chicago, Nov. 13-17.

American Institute of Chemical Engineers, 32nd annual meeting, Providence-Biltmore Hotel, Providence, R. I., Nov. 15, 16, 17.

American Society of Mechanical Engineers, Philadelphia, Pa., Dec. 4 to 7.

17th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 4 to 9.

1940

Society of Automotive Engineers, Annual Meeting and Engineering Display, Book-Cadillac Hotel, Detroit, Jan. 15 to 19.

Natural Gasoline Assn. of America, 19th annual convention, Hotel Tulsa, Tulsa, May 15, 16, 17.

New Orleans As An Oil Port

WASHINGTON, June 26.—Revised information on port and harbor conditions at New Orleans is now available in a 296-page report prepared for the War Department. In addition to outlining the services available to waterborne commerce on the water front, it covers other transportation facilities.

Importance of New Orleans as a port for petroleum products is shown in the report by the fact that petroleum led all other products in exports, imports, coastwise receipts, coastwise shipments, and internal receipts during the period from 1927 to 1936. They were second only to sugar in internal shipments. More than half of the coastwise movements were petroleum products.

The report is available at $1 from the Superintendent of Documents, Washington, D. C.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

TRI SOL, Serial No. 418,660, Triplex Oil Refining Company, Inc., Long Island City, N. Y. Filed April 24, 1939.

For lubricating oils. Published June 13, 1939.

BLUE RIBBON, Serial No. 415,386, The Golden Rule Oil Company, Wichita, Kans. Filed Jan. 30, 1939.

For gasoline, kerosine, lubricating oils and greases. Published June 13, 1939.

MIDEXPORT, Serial No. 418,257, Midcontinent Export Corporation, New York, N. Y. Filed April 14, 1939.

For lubricating oils and greases. Published June 13, 1939.

EVER-BODYS, Serial No. 418,659, Tri-Plex Oil Refining Company, Inc., Long Island City, N. Y. Filed April 24, 1939.

For motor lubricating oils. Published June 13, 1939.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect June 26, 1939

Following are posted tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 4
S. O. NEW JERSEY			
Atlantic City, N. J.	7.0	5.75	5.75
Newark	7.0	5.75	5.75
Annapolis, Md.	....	6.5	....
Baltimore	6.75	6.25	5.75
Washington, D. C.	7.00	6.50	6.50
Norfolk, Va.	7.0	6.0	6.0
Petersburg	7.25	6.25	....
Richmond	7.25	6.25	6.25
Charlotte, N. C.	8.75	7.75	....
Hickory	....	8.25	....
Raleigh	8.75	7.25	....
Charleston, S. C.	8.5	7.0	....
Columbia	9.5	8.0	....
Spartanburg	10.2	8.7	....

SOCONY-VACUUM OIL CO. INC.
(S. O. New York Division)

	No. 2	No. 3	No. 4
New York City	5.75	5.75	5.75
Albany, N. Y.	5.75	5.75	5.25
Rochester, N. Y.	6.75	6.75	6.75
Boston, Mass.	5.50	5.50	5.50
Bangor, Me.	6.00	6.00	6.00
Manchester, N. H.	6.00	6.00	6.00
Burlington, Vt.	6.25	6.25	6.25
Hartford, Conn.	6.00	6.00	6.00
New Haven, Conn.	5.50	5.50	5.50
Providence, R. I.	5.50	5.50	5.50

Note: Prices for No. 1 fuel in Socony-Vacuum territory same as for kerosine which see in tank wagon table for various cities; prices change with kerosine.

ATLANTIC REFINING

	Numbers 1	2	3	4	5	6
Phila., Pa.	7.75	6.0	6.0	6.0	3.75	3.00
Allentown, Pa.	8.5	6.5	6.5	6.5	....	....
Wilmington, Del.	7.75	5.5	5.5	5.5	....	....
Springfield, Mass.	7.0	5.5	....	....	....	....
Worcester, Mass.	7.0	5.50	....	5.50	....	....
Hartford, Conn.	6.5	6.0	....	6.0	....	....

S. O. OHIO

	No. 1	No. 2	No. 3
Columbus Division and Cleveland	7.50	7.50	7.00
City of Lima	8.00	8.00	7.00
Rest of Ohio	8.00	8.00	7.50

Note: S. O. Ohio prices are for full compartment hose dumps, bucket dumps are 0.5c per gallon higher.

S. O. INDIANA
Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	(a)6.75	6.75
Indianapolis	....	(b)7.8
Detroit	....	7.1
Milwaukee	8.4	7.7
Minneapolis	7.8	7.8
St. Louis	7.7	(c)6.7
Kansas City	6.8	6.8

(a) For 400 gals. and over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.

(b) Excluding 4c state tax.

(c) For 400 gals & over; 150 to 399 gals., 7c; 1 to 99 gals., 8c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine Cents per Cwt.	Gasoline-Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	53	3.498	42	3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	62	4.092	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'ls-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
From Ponca City	13	*0.858	13	†0.858
Wichita				
From Tulsa	21	*1.386	21	†1.386
From Cushing	19	*1.254	19	†1.254

*This rate also includes distillate rate at 6.6 lbs. per gal.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Eastern Domestic

(Inter-refinery and export prices not included.)

MOTOR GASOLINE

Prices Effective	June 26	
District:	60-64 Oct.	65 Oct. & Above
N. Y. harbor	5.75 – 6.25	6.25 – 6.35
(a) N. Y. harbor	5.75 – 6.00	6.00
Philadelphia	5.75 – 6.50	6.00 – 6.50
Baltimore	5.75 – 6.25	6.00 – 7.00
Norfolk	6.25 – 6.50	6.25 – 6.50
Wilmington, N. C.	6.00 – 6.50	6.25 – 7.00
Charleston, S. C.	6.00 – 6.50	6.25 – 7.00
Savannah	5.75 – 6.50	6.00 – 6.75
Jacksonville	5.75 – 6.50	6.00 – 6.75
Portland	6.25 – 6.50	6.50 – 7.00
Boston	5.75 – 6.35	6.00 – 6.50
Providence	5.75 – 6.35	6.00 – 6.50

WATER WHITE KEROSINE

District:			
N. Y. harbor	4.25 – 4.375	Charleston	4.75-5.25
(a) N. Y. harbor	4.125– 4.25	Savannah	5.00-5.25
Philadelphia	4.50 – 4.75	Jacksonville	5.00-5.25
Baltimore	4.75	Portland	4.375
Norfolk	4.75	Boston	4.25–4.375
Wilmington, N.C.	4.75 – 5.00	Providence	4.25–4.375

(b) FUEL OILS

	N. Y. harb.	N. Y. harb. barges
No. 1	4.25 – 4.375	4.125– 4.25
Nos. 2-3	3.75 – 3.875	3.625– 3.75
No. 4	3.625– 4.00	3.50 – 3.75
No. 5	(m)$1.25	.....
No. 6	$1.05	.....

	Phila. dist.	Balt. dist.
No. 1	4.50 – 4.75	4.75
Nos. 2-3	4.25	4.25
No. 4	4.00 – 4.25	4.00 – 4.25
No. 5	$1.25	$1.25
No. 6	$1.05	$1.05

	Bost. dist.	Prov. dist.
No. 1	4.25 – 4.375	4.25 – 4.375
Nos. 2-3	3.75 – 3.875	3.75 – 3.875
No. 4	3.75 – 4.00	3.75 – 4.00
No. 5	$1.35	(o)$1.30
No. 6	$1.05	$1.05

District:	(c) Bunker C Fuel	(c) Diesel Oil
N. Y. harbor	$1.05	$1.65 –$1.70
Philadelphia	$1.05	$1.65
Baltimore	$1.05	$1.65
Norfolk	$1.05	$1.65
Charleston	$1.00	$1.65 –$1.75
Savannah	$1.00	$1.785
Jacksonville	$1.00	$1.785
Tampa	$0.95	$1.785
Portland	$1.05	$1.75
Boston	$1.05	$1.65
Providence	$1.05	$1.65

	Gas Oil 28-34 Gravity	Diesel Oil Shore Plants
N. Y. harbor	3.875– 4.125	3.75 – 4.00
Philadelphia dist	4.25	.....
Baltimore dist	4.25	.....
Norfolk dist	4.25	.....
Savannah dist	....	4.25
Jacksonville dist	....	4.25

Pacific Export

(c) (Quotations are at seaboard, Los Angeles, in cargo lots, cents per gal., except where otherwise noted.)

Prices Effective	June 26	June 19
U. S. Motor, under 65 oct.	4.25 – 4.50	4.00 – 4.125
400 e.p. blend, under 65 oct	4.50 – 4.625	4.125– 4.25
400 e.p. blend 65 oct. & above	4.625– 5.00	4.25 – 4.50
(d) 38-40 gravity, w.w. kerosine	4.25 – 4.50	4.25 – 4.50
41-43 gravity, w.w. kerosine	4.50 – 4.75	4.50 – 4.75
44 gravity, w.w. kerosine	5.00 – 5.25	5.00 – 5.25
In Cargo lots, per bbl.		
Diesel fuel, 24 & above	$0.95 –$1.05	$0.95 –$1.05
Diesel fuel, under 24	$0.85 –$0.90	$0.85 –$0.90
(f) 30-34 gravity, diesel (gas oil)	$1.05 –$1.20	$1.05 –$1.20
(g) Grade C fuel oil	$0.58 –$0.65	$0.58 –$0.68
Prices Effective	June 26	June 19
In Ships' Bunkers, or deep tank lots, per bbl.:		
(f) Diesel fuel oil	$1.35 –$1.45	$1.35 –$1.45
(g) Grade C fuel oil	$0.70 –$0.90	$0.70 –$0.90
Cased Goods: (Per case)		
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
400 e.p. blend, under 65 octane	$1.40 –$1.50	$1.40 –$1.50
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
(d) 40-43 gravity, w.w. kerosine	$1.30 –$1.40	$1.30 –$1.40
Kerosine, p.w.	$1.25 –$1.35	$1.25 –$1.35

New York Export

(Cents per gal. in bbls. FAS. New York)

CYLINDER OILS (Pennsylvania Products)		
Bright stock:		
Light, 25 p.t.	23.00	23.00
Neutral oil:		
200 3 color, 25 p.t.	24.00	24.00
150 3 color, 25 p.t.	22.00	22.00
600 s.r., unfiltered	15.50	15.50
650 s.r., unfiltered	17.50	17.50
600 fl., s.r.	18.00	18.00
630 fl., s.r.	20.50	20.50

Wax, Domestic *and* Export

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3 higher than E.M.P. Export prices, FAS., carloads. Domestic prices, FOB. refineries, in bags, carloads, with 0.2c discount allowed for shipment in bulk, except where noted below. Scale solid; fully refined, slabs in bags)

Prices Effective	June 26 New York Domestic	New York Export
124-6 Y.C. scale	2.95 – 3.00	2.95 – 3.00
122-4 W.C. scale	3.00	3.00
124-6 W.C. scale	3.00	3.00
123-5 Fully rfd.	4.00	3.625
125-7 Fully rfd.	4.15	3.75
128-30 Fully rfd.	(h)4.25	4.00
130-2 Fully rfd.	(h)4.60	4.25
133-5 Fully rfd.	(h)4.90	4.65
135-7 Fully rfd.	(h)5.15	5.00

	New Orleans Domestic	New Orleans Export
124-6 Y.C. scale	2.95 – 3.00	2.95 – 3.00
122-4 W.C. scale	3.00	3.00
124-6 W.C. scale	3.00	3.00
123-5 Fully rfd.	4.00	3.625
125-7 Fully rfd.	4.15	3.75
128-30 Fully rfd.	(h)4.25	4.00
130-2 Fully rfd.	(h)4.60	4.25
133-5 Fully rfd.	(h)4.90	4.65

Gulf Coast

(FOB. ship at Gulf for domestic and export shipment; minimum 20,000 bbls.; representing traders' opinions)

MOTOR GASOLINE

	June 26		
	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
60 octane	4.50	4.50	4.50
65 octane	4.875– 5.00	4.875– 5.00	4.875– 5.00
68 octane	5.125– 5.25	5.125– 5.25	5.125– 5.25
70 octane	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50

Prices Effective	June 26	June 19
KEROSINE		
44 gravity, w.w.	3.75 – 3.875	3.75 – 3.875
41-43 gravity, w.w.	3.50 – 3.625	3.50 – 3.625
41-43 gravity, p.w.	3.50 – 3.625	3.50 – 3.625

Prices Effective	June 26	June 19
GAS AND BUNKER OILS		
Gas Oil (i):		
Below 43 diesel index	3.125	3.125
43-47 diesel index	3.25	3.25
48-52 diesel index	3.25 – 3.375	3.25 – 3.375
53-57 diesel index	3.375– 3.50	3.375– 3.50
58 & above	3.50	3.50
LIGHT FUEL OILS		
No. 1	3.50	3.50
No. 2	3.00 – 3.25	3.00 – 3.25
DIESEL and BUNKER OILS		
(c) Diesel Oil	$1.45	$1.45
(c) Grade C bunker oil	$0.80 –$0.85	$0.80 –$0.85
Grade C bunker oil, in cargoes	$0.80 –$0.81	$0.79 –$0.81

MID-CONTINENT LUBRICATING OILS

(Cents per gal. at Gulf; in bbls., FAS.; in bulk, FOB. terminals)

	June 26 (j) Barrels	Bulk
190-200 vis. D. 210 brt. stock	22.00	17.80
150-160 vis. D 210 brt. stock:		
0-10 p.p.	18.50 –19.00	14.25 –14.30
10-25 p.p.	18.00 –18.50	13.75 –13.80
150-160 vis. E. 210 brt. stock	18.00	13.80
120 vis. D 210 brt. stock	17.25 –17.50	13.00 –14.50

	June 26 Bulk	June 19 Bulk
180 vis. No. 3 color neutral:		
0-10 p.p.	10.05 –11.50	10.05 –11.50
15-30 p.p.	9.55 –11.00	9.55 –11.00
200 vis. No. 3 color neutral:		
0-10 p.p.	10.80 –12.00	10.80 –12.00
15-30 p.p.	10.30 –11.50	10.30 –11.50
600 s.r. olive green	9.00 –11.25	9.00 –11.25
600 s.r. dark green	7.00 – 9.25	7.00 – 9.25

SOUTH TEXAS LUBRICATING OILS

(Vis. at 100° cold test 0, bulk export shipment, FOB terminals.)

Unfiltered Pale Oils:

Vis.	Color		
100	No. 3	4.50 – 4.75	4.50 – 4.75
200	No. 3	6.00 – 6.25	6.00 – 6.25
300	No. 3	6.50 – 6.75	6.50 – 6.75
500	No. 3½	7.50	7.50
750	No. 4	8.00 – 8.25	8.00 – 8.25
1200	No. 4	8.375– 8.75	8.375– 8.75
2000	No. 4	8.50 – 9.00	8.50 – 9.00

Red Oils:

Vis.	Color		
100	No. 5-6	4.50 – 4.75	4.50 – 4.75
200	No. 5-6	6.00 – 6.25	6.00 – 6.25
300	No. 5-6	6.50 – 6.75	6.50 – 6.75
500	No. 5-6	7.50	7.50
750	No. 5-6	8.00 – 8.25	8.00 – 8.25
1200	No. 5-6	8.375– 8.75	8.375– 8.75
2000	No. 5-6	8.50 – 9.00	8.50 – 9.00

Note: Red oil prices cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate freight rates to Continental ports shillings per ton of 2240 lbs., British sterling: U. S. ports cents per bbl.)

Rates Effective June 26

	Crude & /or Fuel		Refined Oil & /or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K./Cont. (k)	11/9	12/- to 12/6	12/6	12/6 to 13/3
Aruba-U.K./Cont. (k)	9/9	10/- to 10/6	10/6	10/6 to 11/3
Gulf-N. Atlantic (l) (not E. of N.Y.): Hvy. Crude & fuel, (10 to 19.9 gravity)	20c	17-18c	....	....
Light Crude, (30 Grav. or Lighter)	18.5c	15-16c	....	....
Gasoline	....	....	15c	15-16c
Kerosine	....	....	18c	16-17c
Light Fuel	....	....	17c	17-18c

(a) In barge lots. (b) Fuel oils meet specifications of U. S. Commercial standards CS12-35. (c) Ships' bunkers. Lighterage, additional at some points, not included. (d) 150 fire point. (e) For San Francisco cargo prices, add 5c per bbl. to cargo prices shown above. (f) Pacific Specification 200. (g) Pacific Specification 400. (h) Shipment in bags or in bulk. (i) Less than ½ of 1% sulfur. (j) Second-hand barrels. (k) Continental ports in range between Bordeaux and Hamburg, both inclusive. (l) Venezuela loading, same rate; Tampico, 2c to 3c per bbl. additional. (m) Low pour test, low viscosity, No. 5 generally quoted at $1.35. (o) One refiner quoting.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency
(Effective March 6, 1939, except Corning Jan. 24, 1939)

Penna. Grade Oil in Southwest Penna. Pipe Lines $1.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) $1.59
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) $1.55
Corning Oil in Buckeye Pipe Lines (Ohio) .. $1.02

Posted by Other Companies

Tide Water Associated Oil Co.
Bradford-Allegany district (Penna. and N. Y.) (Effective March 6, 1939) $2.00
*The Pennzoil Co.: (Effective March 6, 1939)
Penna. Grade Oil in National Transit Lines *1 93
*The Pennzoil Co. posts $1.93 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields, prices in other lower districts range down to $1.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.
Midland, Midland County (April 17, 1939) ... $0.975

Posted by Simrall Corp.
(Effective April 20, 1939)
Crystal, Greendale, Porter and Wise $0.975
Beaverton, Buckeye, Bentley, Edenville $0.95
Freeman $0.89
(Effective April 18, 1939)
West Branch, Arenac, and equal grades $0.74

Posted by Bay Pipe Line Corp.
(Effective April 20, 1939)
Bentley and Buckeye $0.95
Saginaw and Wise $0.975

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.
(Effective June 8, 1939)
Illinois and Western Indiana $0.95
Illinois Basin $1.05

Posted by Sohio Corp.
(Effective June 8, 1939)
Illinois Basin $1.05

Posted by Carter Oil Co.
(Effective June 10, 1939)
Louden, Fayette County, Ill. $1.05

Posted by Ashland Oil & Transportation Co.
(Effective June 9, 1939)
Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River $1.02
Kentucky River $1.10

Posted by Stoll Oil Refining Co.
(Effective June 10, 1939)
Stoll Pipe Line Oil (Ky.) $0.90

Posted by Fordsville Gathering Line, Inc.
(Effective June 9, 1939)
Birk City Field, Ky. $0.90
Owensboro District, Ky. $1.00

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario
(Effective Oct. 25, 1938)
Petrolia $1.90
Oil Springs $1.97

Alberta—Turner Valley
(Prices f.o.b. field tankage)
(Effective Jan. 5, 1938)

Crude Oil			
40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above $2.14

Absorption Gasoline	
90% Rec., 20 lb. Reid v.p.	$1.94
90% Rec., 17 lb. Reid v.p.	$2.08

MID-CONTINENT

Oklahoma-Kansas

*(Effective Oct. 11 to 22, 1938; and Feb. 16, 1939)

*Effective 1938:	S. O. Indiana	Carter Oil	Magnolia Shell	Continental Texas Co.	Sinclair-Prairie
Below 21°	$0.70	$0.60	....	....	....
21-21.9	.72	.63	....	....	....
22-22.9	.74	.66	....	....	....
23-23.9	.76	.69	....	....	....
24-24.9	.78	.72	....	....	....
25-25.9	.80	.75	....	....	$0.58
26-26.9	.82	.78	....	....	.63
27-27.9	.84	.81	....	....	.68
28-28.9	.86	.84	$0.86	....	.73
29-29.9	.88	.87	.88	....	.78
30-30.9	.90	.90	.90	....	.82
31-31.9	.92	.92	.92	....	.86
32-32.9	.94	.94	.94	....	.90
33-33.9	.96	.96	.96	....	.96
34-34.9	.98	.98	.98	....	.98
35-35.9	1.00	1.00	1.00	....	1.00
36-36.9	1.02	1.02	1.02	....	1.02
37-37.9	1.04	1.04	1.04	....	1.04
38-38.9	1.06	1.06	1.06	....	1.06
39-39.9	1.08	1.08	1.08	....	1.08
40 & above	1.10	1.10	1.10	....	1.10

*Effective by Carter Oil, Oct. 13, posting in Okla. only; Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; Sinclair-Prairie, Feb. 16, 1939; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12.

North-North Central and Central Texas

*Effective 1938:	Stanolind Oct. 17	†Sinclair-Prairie Oct. 11	*Texas Co. *Continental *Magnolia
Below 21°	$0.60	....	....
21-21.9	.62	....	....
22-22.9	.64	....	....
23-23.9	.66	....	....
24-24.9	.68	$0.76	$0.79
25-25.9	.70	for	for
26-26.9	.72	oil	oil
27-27.9	.74	below	below
28-28.9	.76	29°.	29°.
29-29.9	.78	.78	.81
30-30.9	.80	.80	.83
31-31.9	.82	.82	.85
32-32.9	.84	.84	.87
33-33.9	.86	.86	.89
34-34.9	.88	.88	.91
35-35.9	.90	.90	.93
36-36.9	.92	.92	.95
37-37.9	.94	.94	.97
38-38.9	.96	.96	.99
39-39.9	.98	.98	1.01
40 & above.	1.00	1.00	1.03

*Effective Oct. 11, by Continental, in North Tex.; Oct. 12, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, in N. and N. Central Texas.
†Sinclair-Prairie prices are in N. Cent. Texas and Mexia.

Jefferson County, Texas

Posted by Magnolia Petroleum Co.

Beaumont
(Effective Oct. 12, 1938)

Below 20°	$0.79	30-30.9	$1.08
20-20.9	.82	31-31.9	1.10
21-21.9	.85	32-32.9	1.12
22-22.9	.88	33-33.9	1.14
23-23.9	.91	34-34.9	1.16
24-24.9	.94	35-35.9	1.18
25-25.9	.97	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

*For below 21°.
Oct. 11, '38, Stanolind Oil & Gas Co. posted same gravity and price schedule in West Beaumont field as Magnolia.

TEXAS FIELDS

Posted by Humble Oil & Refining Co.
**West Central Texas*
(Effective Dec. 3, 1938)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.
Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

**East Central Texas*
(Effective Oct. 11, 1938)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.
(Effective Feb. 15, 1939)
Cayuga, Anderson county $0.68
*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

Posted by Humble Oil & Refining Co.
(Effective Dec. 3, 1938)

	Gray County	Carson-Hutchinson
28-28.9	$0.72	$0.67
29-29.9	.74	.69
30-30.9	.76	.71
31-31.9	.78	.73
32-32.9	.80	.75
33-33.9	.82	.77
34-34.9	.84	.79
35-35.9	.86	.81
36-36.9	.88	.83
37-37.9	.90	.85
38-38.9	.92	.87
39-39.9	.94	.89
40 & above	.96	.91

Effective Oct. 11, 1938, Sinclair Prairie posted same prices in Panhandle Texas as Humble posted Dec. 3. Dec. 3, Magnolia met Humble.

EAST TEXAS

Gulf, Humble, Magnolia, Sinclair Prairie, Stanolind, Texas Co., Tide-Water Associated $1.10
*Effective Oct. 11 by Humble, Sinclair Prairie, and Stanolind; Oct. 12 Magnolia, Texas, Tide Water; Oct. 13 by Gulf.

NORTHEAST TEXAS

(Posted by Humble, Oct. 11, 1938)
Talco $0.55

(Posted by Magnolia, Oct. 12, 1938)
Cass County and Panola County, Tex.:
Same gravity and price schedule as S. O. Louisiana posts for N. La.-Ark. Crude, which see under that company.

(Posted by The Texas Co., Oct. 12, 1938)
Cass County $1.05

WEST TEXAS and NEW MEXICO

(a) (Effective Oct. 11, 1938 to March 24, 1939)

	Humble	Magnolia Stanolind	Shell	Texas Co. Sinclair
Below 20°	$0.53	(b)	$0.53	(c)
20-20.9	.55	...	.55	...
21-21.9	.57	...	.57	...
22-22.9	.59	...	.59	...
23-23.9	.61	...	.61	...
24-24.9	.63	...	.63	...
25-25.9	.65	...	.65	.65
26-26.9	.67	.67	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Pecos County, West Texas
(Posted by Humble and Shell, Oct. 11, 1938)
Pecos $0.78
Yates Shallow Pool (Shell) ..... .65
(a) Effective by Humble Oil & Refg., Shell Oil, Stanolind Oil & Gas, and Sinclair Prairie, Oct. 11, 1938; by Magnolia Petroleum and The Texas Co., Oct. 12, 1938. On March 24, 1939, Sinclair Prairie revised its posting from 40 & above, to 36 & above, at $0.87.
(b) Magnolia posts $0.63 for below 25; $0.65 for 25-25.9. Stanolind posts $0.65 for below 26.
(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.
Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Magnolia's are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Lea; Stanolind in Headrick field, Winkler county; Texas Co. in Ward, Winkler and Lea; Sinclair in W. Texas and Lea.

Posted by Sinclair Prairie Oil Marketing Co.
(Effective Oct. 11, 1938)
Eddy county, N. Mex. $0.77

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)
Artesia, Jackson and Maljamar pools, New Mexico: gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)
Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co.
(Effective Oct. 11, 1938)
Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes $0.96
Van crude $0.93
Conroe $1.27
(Effective Dec. 3, 1938)
Flour Bluff $1.23
Oct. 12, '38, Magnolia met Humble in Darst Creek; posted $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.
Oct. 12, '38, The Texas Co. met Humble in Darst Creek.

**Anahuac and Dickinson*
(Effective Dec. 3, 1938)

Below 20°	$0.74	30-30.9	$1.03
20-20.9	.77	31-31.9	1.05
21-21.9	.80	32-32.9	1.07
22-22.9	.83	33-33.9	1.09
23-23.9	.86	34-34.9	1.11
24-24.9	.89	35-35.9	1.13
25-25.9	.92	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand).
Raccoon Bend (Deep sand crude) Tomball and Saisuma
(Effective Dec. 3, 1938)

22-22.9	$0.95	27-27.9	$1.05
23-23.9	.97	28-28.9	1.07
24-24.9	.99	29-29.9	1.09
25-25.9	1.01	30-30.9	1.11
26-26.9	1.03	31-31.9	1.13

(Continued on next page)

CRUDE OIL MARKETS

(*Continued from preceding page*)

32-32.9	$1.15	37-37.9	$1.25
33-33.9	1.17	38-38.9	1.27
34-34.9	1.19	39-39.9	1.29
35-35.9	1.21	40 & above	1.31
36-36.9	1.23		

Dec. 3, Magnolia met above price and gravity schedule in Tomball.

Posted by Humble

***Mirando**

(Effective Dec. 3, 1938)

Below 20°	$0.74	30-30.9	$1.03
20-20.9	.77	31-31.9	1.05
21-21.9	.80	32-32.9	1.07
22-22.9	.83	33-33.9	1.09
23-23.9	.86	34-34.9	1.11
24-24.9	.89	35-35.9	1.13
25-25.9	.92	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Includes Duval, Jim Hogg, Jim Wells, Webb and Zapata counties, Tex. and Heyser and Placedo crudes.

Oct. 12, '38, Texas Co. posted for Duval-Mirando, $0.77 for below 21, plus 3c differential to 26-26.9, $0.95; 27-27.9, $0.97; 28 & above, $0.99.

Dec. 3, Humble's Mirando schedule met by Magnolia.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(Effective Oct. 5, 1938)

	*N. La.-Ark.	†Columbia County, Ark.	‡South Louisiana
Below 21°	$0.73	$0.66	$0.74
21-21.9	for	for	.77
22-22.9	oil	oil	.80
23-23.9	Below	Below	.83
24-24.9	25°	25°	.86
25-25.9	$0.75	$0.68	.89
26-26.9	.77	.70	.92
27-27.9	.79	.72	.94
28-28.9	.81	.74	.96
29-29.9	.83	.76	.98
30-30.9	.85	.78	1.00
31-31.9	.87	.80	1.02
32-32.9	.89	.82	1.04
33-33.9	.91	.84	1.06
34-34.9	.93	.86	1.08
35-35.9	.95	.88	1.10
36-36.9	.97	.90	1.12
37-37.9	.99	.92	1.14
38-38.9	1.01	.94	1.16
39-39.9	1.03	.96	1.18
40 & above	1.05	.98	1.20

(Effective Oct. 5, 1938)

Smackover, Ark. $0.73

Posted by Arkansas Fuel Oil Corp.

(Effective Jan. 28, 1937)

Urania, La. $1.02

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Tepetate and Ville Platte, La. $1.03

(Effective Jan. 1, 1939)

Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

(Effective April 19, 1939)

Allison area, Shreveport field $1.05

(Effective April 29, 1939)

Lisbon, N. La.

Below 34	$0.73	35 & above	$0.77
34-34.9	.75		

*Includes Bunkie, Caddo, Carterville, DeSoto, Homer, Haynesville, Rodessa, Sabine and Sarepta, in N. La.; El Dorado and Miller County, Ark. (latter is Ark. part of Rodessa field).

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

†Includes Buckner, Magnolia, and Village pools.

‡Includes these fields: Baton Rouge, Bayou, Choctaw, Cheneyville, Darrow, Jeanerette, Lirette, N. Crowley and Roanoke.

Oct. 12, 1938, Magnolia Petroleum and The Texas Co. posted same gravity and price schedule as S. O. La. posts in N. La.-Ark. in these fields: Magnolia, in Bull Bayou, Cotton Valley, Haynesville, Pine Island and Rodessa. La., and Eldorado and Rainbow, Ark.; Texas Co. in N. La. Both also met S. O. La in Smackover. Texas Co. posted $1.24 for Garden Island, La. and $1.04 for Lafitte, La.

*GULF COASTAL FIELDS

Posted by Humble Oil & Refining Co.

†(Effective Oct. 11, 1938)

Below 20	$0.79	30-30.9	$1.08
20-20.9	.82	31-31.9	1.10
21-21.9	.85	32-32.9	1.12
22-22.9	.88	33-33.9	1.14
23-23.9	.91	34-34.9	1.16
24-24.9	.94	35-35.9	1.18
25-25.9	.97	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

Polk County, Tex.
(Posted by Shell Oil Co., Inc)

Livingston Area (Effective Oct. 11, '38)	$1.10
Schwab Area (Effective Feb. 20, '39)	1.00

†Effective Dec. 3, 1938, gravities up to 45 & above discontinued in Refugio, Saxet, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

*Humble's prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mykawa, Sugarland, Thompsons, Webster and West Columbia; also Refugio, Saxet, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Oct. 11, 1938, Stanolind posted in Clinton, Hastings, High Island, So. Houston, and Spindletop same prices as Humble in Texas Gulf Coast fields, except that Stanolind's lowest grade is below 21, at $0.82.

Oct. 12, 1938, The Texas Co. posted for Texas & La. Gulf Coast crude: $0.82 for below 21 plus 3c to 26-26.9, which is $1; from there on, 2c, to 34 & above, which is $1.16. In Refugio, same as other Gulf Coast, except highest gravity is 28 & above, $1.04.

Effective Oct. 11, 1938, Sinclair Prairie met Humble's Gulf Coast price & gravity schedule.

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Iles, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co.

(Effective Oct. 11, 1938)

Elk Basin, Wyo	$0.90
Grass Creek, light	0.90
Rock Creek	1.00
Lance Creek	0.77
Dry Creek, Mont	0.92

(Effective May 1, 1938)

Grass Creek, heavy	$0.50

(Effective Nov. 16, 1937)

Sunburst, Mont	$0.90

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Cat Creek, Mont	$1.10
Big Muddy, Wyo	0.98
Lance Creek, Wyo	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936; Elk Hills effective June 22, 1936; Lakeview Area, Aug. 19, 1936; El Segundo and Wilmington, Oct. 15, 1937; Greeley-Canal, July 9, 1938; Santa Maria Valley, by Union Oil, Oct. 15, 1938.

Gravity	Signal Hill (Long Beach) El Segundo †Wilmington	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset Lakeview Area	Greeley-Canal (Kern County)	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria (Union Oil)
13-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.63
14-14.9	$0.80	$0.79	$0.74	$0.78	$0.79	$0.80	$0.76	....	....	$0.80	$0.76	$0.76	$0.77	$0.78	....	$0.70	....	$0.70	$0.70	....	$0.70	$0.70	....	.65
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.68
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	....	.74	.71	.70	....
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	....	.78	.72	.70	....
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	....	.82	.74	.70	....
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	....	.86	.78	.72	....
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	....	.90	.82	.76	....
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	....	.94	.86	.79	....
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	1.01	1.01	....	.98	.90	.83	....
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	....	1.02	....	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	$0.91	1.06	....	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.94	1.10	....	....	....
29-29.9	1.17	1.15	.93	1.18	1.18		1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.98	1.14	....	....	....
30-30.9	1.21	1.19	.95	1.22	1.21		1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	1.02	1.18	....	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	1.06				....
32-32.9	*Ellwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.09	Kettleman Hills			....
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.13	....	1.19	....	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	1.17	....	1.23	....	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	1.20	....	1.27	....	....
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48-48.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.68	....	....	....	....

*F. o. b. ship.

‡Also McKittrick, Kern River. Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted.

†Wilmington prices differ on gravities below 18.9. Prices are: 14-16.9, $0.75; 17-17.9, $0.77; and 18-18.9, $0.79; rest of schedule same as Signal Hill.

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"STRICTLY PERSONAL"

President E. G. Seubert (left) shakes hands with E. J. Bullock, vice-president, while Salesmanager Amos Ball looks on. Mr. Bullock is retiring from the Indiana Standard after 50 years in oil business

Edward J. Bullock, vice president in charge of purchasing and a director of Standard of Indiana, will close a career of nearly half a century with the Indiana company when he retires June 30. Fifty executives, including President **Edward G. Seubert,** honored Mr. Bullock at a testimonial dinner at the Bismarck hotel, June 23.

In knee pants, and so small he had to climb on a box to answer the old wall telephone, "Ed" Bullock obtained a job in 1889 as office boy for the P. C. Hanford Oil Co. of Milwaukee at $3 per week. He became clerk in 1890. The Hanford company was absorbed by the new Standard company in 1892, and when young Mr. Bullock was 32 years old he was transferred to Chicago as assistant manager of the company's lubricating department.

From 1911 to 1915 he was sales manager for Atlantic Refining Co. Returning, in 1915 to the Indiana Standard he was made manager of the Chicago sales division of the company. In 1919 he was selected to manage the purchasing of oils, becoming director of all purchases in 1921. He was elected director in 1922 and a vice-president in 1927.

For some years Mr. Bullock has been a director of the American Petroleum Institute. He was general chairman of Region 3 in the NRA oil code days.

Mr. Bullock is past vice-president of the Union League Club, a 33rd degree Mason, a trustee of the Shriners' Hospital for Crippled Children and a director of the Oak Park First Congregational Church.

He will continue to maintain his home in Oak Park and will devote his leisure to civic activities, travel and recreation.

James F. Hewson, purchasing agent of the company since 1923, will become manager of purchases. Mr. Hewson joined Standard in 1917 as an estimating engineer at the company's Whiting refinery. He was transferred to the general office in 1920.

* * *

F. C. Hall, Oklahoma City oil man and backer of the famous "globe-girdling flight" in 1931 of Wiley Post and Harold Gatty, has acquired control and become president of the Trans-Southern Airlines, Inc. The company has an application pending before the civil aeronautics authority at Washington, for an airmail and passenger line between Amarillo, Tex., and Memphis, Tenn.

* * *

R. G. Moss, district geologist for Phillips Petroleum Co., has been transferred from Kansas to Indiana. Transfer is effective July 1.

* * *

J. C. Bradley has been named superintendent of Anderson Prichard Oil Corp.'s refinery at Cyril, Okla. He formerly was safety engineer at the McPherson, Kans., plant of the Globe Oil & Refining Co., and more recently with Winkler-Koch Engineering Co., on a construction job at Ploesti, Roumania.

* * *

William B. Shimp, of Greenfield, O., operator of the Greenfield Oil Co. is running for mayor of Greenfield on the Democratic ticket. Mr. Shimp was formerly on the faculty of Ohio University.

Dan Cameron, Carter Oil Co.'s scout, is president of the new Missouri Oil Scouts Ass'n., which meets at St. Joseph, Mo. **J. D. Lander,** Pure Oil Co., is vice president; **R. M. Blackmore,** Shell Oil Co., secretary and treasurer, and **Joe Sauer,** Indian Territory Illuminating Oil Co., I.T.I.O., chairman of the executive committee.

* * *

Allen W. Lawyer, assistant division manager for the Ohio Standard at Columbus was honored with a dinner recently at the Columbus Athletic Club, where he was presented with a 25-year pin.

* * *

Pennsylvania Refining Co.'s sales manager **M. H. "Heiny" Hindman** spent several days of the past week in New York and Philadelphia on business. Mrs. Hindman accompanied him. This is their first eastern jaunt since the New York World's Fair opened, so maybe "Heiny" took time out to go out to Flushing.

* * *

Charles P. "Chuck" Rennacker, Oil City, Pa., of James B. Berry Sons' Co., was one of the few salesmen who "horned in" on the annual banquet of the Oil City-Franklin Traffic Club at Conneaut Lake Park, Pa., June 22. It was the club's seventeenth annual affair and nearly 300 of the freight-rate boys were on hand.

* * *

Lyman L. Long, formerly of L. Sonneborn Sons, Inc., New York, and who at the present time is "free lancing", was on a trip through western Pennsylvania visiting his old refinery friends the past week. Before going to New York, Long was sales manager of Valvoline Oil Co. at East Butler, Pa. and prior to that he held the same position with Waverly Oil Works Co., Pittsburgh.

* * *

M. D. Vanderley, general sales manager of the Leonard Refining Co., Alma, Michigan, has left on a three-week visit to his parents in California. Mr. Vanderley was accompanied by his wife.

* * *

W. J. Stevenson, assistant secretary of the National Petroleum Mutual Fire Insurance Co., Philadelphia, has resigned to start his own business. He will specialize in petroleum insurance. Mr. Stevenson had been with the company for 14 years.

* * *

E. M. Dyar, Minneapolis, president of the Midwest Oil Co., is still confined to his home following an operation several months ago.

* * *

P. S. Magruder, assistant manager of the gas department of General Petroleum Corp. is new president of the California Natural Gasoline Ass'n. He served as vice president the past year. **L. V. Cassiday,** plant superintendent for Lomita Gasoline Co., Signal Hill, takes over the vice president duties. Mr. Magruder succeeds **H. R. Linhoff,** Richfield Oil Corp., retiring president of the association.